MOTHERS AND DAUGHTERS

LIBRARY OF CONGRESS.

RG 121

Chap. ..... Copyright No. .....

Shelf C75

UNITED STATES OF AMERICA.

Pam 31
2314-P

MOTHERS AND DAUGHTERS.

A MANUAL OF

HYGIENE FOR WOMEN

AND

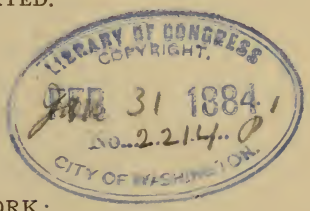
THE HOUSEHOLD.

BY

MRS. E. G. COOK, M.D.

Cook, Eliza [illegible]
10
4215

ILLUSTRATED.



NEW YORK:
FOWLER & WELLS, PUBLISHERS,
NO. 753 BROADWAY.
1884.

RG 121
.C75

COPYRIGHT, 1883, BY
MRS. E. G. COOK, M.D.

EDWARD O. JENKINS,
Printer and Stereotyper,
20 North William St., New York.

TO

MY DEAR DAUGHTERS AND SISTER,

AND

MY DEAR FRIEND AND WOMAN'S HELPER,

MRS. ALEX. MITCHELL,

TO WHOM, OUT OF ADMIRATION AND RESPECT I WOULD SHOW HOW DEEPLY I APPRECIATE HER LIFE OF MARVELOUS INDUSTRY,

I DEDICATE THIS VOLUME.

CONTENTS.

PAGE

PREFACE, ... 5

CHAPTER I.

THE IMPORTANCE OF PHYSICAL CULTURE, . . 17

CHAPTER II.

BONE, ... 34

CHAPTER III.

MUSCLES, ... 45

CHAPTER IV.

VENTILATION, AND THE IMPORTANCE OF HYGIENE, 66

CHAPTER V.

THE BRAIN AND NERVOUS SYSTEM, ... 78

CHAPTER VI.

INTEMPERANCE, ... 86

CHAPTER VII.

TOBACCO, ... 93

CHAPTER VIII.

THE STRUCTURE AND CARE OF THE SKIN, . . 96

CHAPTER IX.

BREAD AND BUTTER, ... 105

CHAPTER X.

PAGE

To Working-Women and Serving-Girls, . . 135

CHAPTER XI.

The Uterus and its Appendages, . . . 158

CHAPTER XII.

Menstruation, and Care during it, . . . 180

CHAPTER XIII.

The various Displacements of the Uterus, with a Severe Case of Ulceration, . 189

CHAPTER XIV.

On Marriage and Maternity, ... 206

CHAPTER XV.

Cases and Treatment of Insane Women, . . 216

CHAPTER XVI.

Children's Rights, ... 228

CHAPTER XVII.

Duties of Women, ... 236

CHAPTER XVIII.

The Evils of a Forced Education, . . 259

CHAPTER XIX.

The Care of Infants, ... 273

CHAPTER XX.

Miscellaneous, ... 293

PREFACE.

"THERE is nothing new under the sun." Yet the author of this volume, in publishing it, claims only the oppressive conviction of woman's need of physical knowledge to venture among the critics.

She asks a careful reading, and hopes by its light and guidance that many sufferers who grope in darkness may find the road to health.

It has been my lot for many years to see and to feel the sufferings of women; my work has been to study their causes, and try to relieve them.

God does not intend us to suffer if we obey His laws.

The belief that pain, disease, premature decay, and death come of ignorance, or violation of nature's laws, gives me nerve and courage to work for the physical education and regeneration of woman. This subject embraces and underlies every other. We can not neglect to learn, if it be in our power, nor can we willfully break these laws without sinning against God.

The fabric of which we are made is not what God intended it to be. It is weak, and permeated through every fiber and tiny cell with enervation,

with little power of endurance, and with susceptibility to all sorts of disease. The lungs, liver, kidneys, and mucous membrane need a purer and more enduring structure, in order to resist the congestions to which this climate especially subjects them. This the people must have, and knowledge how to preserve it. I feel that humanity can be mended, its tendencies to disease lessened, and many of its ills prevented.

Men are too full of business occupations, which are constantly multiplying, to give this subject the thought it fully demands. Women themselves must not only work out their own physical salvation, but that of men as well. They must make of themselves and their children what God has enjoined upon us all, "Fit temples for the Holy Spirit to dwell in."

The very first thing to do is to mend ourselves. Let each individual study her own person, and see how almost every hour in the day she violates some of the laws of health. Observe how many a sensible woman, so called, spends a single day. She is often the first one up in the house, for she "sleeps with one eye open"; she perhaps takes a hurried bath, dresses in haste, not thinking whether the bands she pins around the body allow its organs to do their appointed work without hindrance; or of the weight of clothing on her hips, which would kill her strong husband. When she comes to breakfast, she casts a scrutinizing glance over the

table, which tells of anxiety and unrest. She does not rest a half hour after, to let the digestive apparatus have full nerve power; but, if she is a woman of society, or a minister's wife, she must be ready for callers. The house must be overlooked from attic to basement, whether she leaves baby with nurse or carries him. When her husband returns to dinner, he finds his home the pink of perfection. The visit she has planned with him after dinner is prevented by a friend, who called to share it; and if between the calls of visitors and children, of servants and beggars, she has an hour of perfect rest before bedtime, she is fortunate.

The demands of society must be studied, and that which kills ignored, if women wish to attain to a state of physical perfection.

How easy it is to be good if one is well, and how difficult sometimes when one is sick. It is no more difficult to understand the laws of health than many other things in which women become proficient. If they study them with as much thought as is given to the making of dresses and bonnets, or in vying with each other in making dainties for the table, they will find them quite as easy.

With the birth of each new day, God's book of nature turns a new leaf for our consideration. Those who deem these lessons irksome, and prefer to seek enjoyment in pursuit of what the world calls pleasure, starve their souls and kill their bodies. If we attain anything in this short life worthy of immor-

tality, we must make up our minds to ignore what people think, or say, and be as sure as we can of walking in duty's path, fearing nothing but God and our own conscience.

What if those we meet turn a cold shoulder, because we dare to dress comfortably, and put nothing but plain food upon our tables; or because we dare to follow the dictates of our own conscience and common-sense, in spite of custom. This persistent effort to live a perfectly healthful life will, in the end, commend itself to the good sense of all who love right, and who are worthy of our consideration. When each individual will do her part in the holy crusade against this ignorance which fosters disease, it will bring us nearer the good time when our souls and bodies shall truly be made in the Divine image. We shall then be as "Gods, knowing good and evil," with power to create and enjoy beyond our present capacity to know or dream. If we look abroad upon nature, we see one vast law of harmony, of proportion, of correspondence, and of beauty everywhere prevails. The relation which one planet has to another, or one part of the human system to another, bears testimony to an overruling and guiding mind.

"Men can not gather grapes of thorns, or figs of thistles." "Whatsoever a man soweth, that shall he also reap." These are proverbs known to all; yet we see daily, time and money wasted in trying to make beautiful women with tapering waists, and

with a weight of clothing upon her hips which, if placed upon a growing tree, would each day render it weaker and more liable to give way to the blasts which at any time may strike it.

If the fashionable bustle were tied and strapped to a valuable horse for a month, it would ruin him. The horse and the tree would quietly yield to this pressure, and nature's forces would expend themselves above and below it. It would do its best to rival its fellows. So do the natural forces in women, who are enfeebled by wrong living and wrong dressing, push them on, sometimes, to old age, and they die, leaving a posterity who, if they knew how their ills came upon them, might curse, instead of bless, their memory.

The conditions which favor the most perfect development of every organ in the body are the ones to consider in endeavoring to make it beautiful. "If one member suffer, all the others suffer with it."

One reason why women and girls have so much backache is because the corset or bands around the waist and the weight of clothing on the hips tend to pull the vertebræ apart. There is an unnatural strain upon these ligaments and muscles, and they are weakened and enfeebled because they have to carry the burdens intended for the bony structure of the shoulders. The consequence is that there are many women to-day in fashionable society who really think their tapering, weak, and small waists are natural and beautiful; while educated, intelligent,

and thinking people know they are deformed. The natural shape is lost, or in such a state that years of constant labor will be required to bring it back again. These deformities are hideous, and totally unfit women for the battle and work of life.

The shape of a natural waist is like a cone, with the largest part, or base, down.

What would be said of an artist who should model or paint a tapering waist? Such an innovation would be considered monstrous, and not for a moment tolerated by the critics. Those who have feasted their eyes on the beautiful proportions of Venus with the apple, or Venus de Medici, or Powers' Greek slave, would be pained to know that fashion had changed them into the present unnatural shape.

We are commanded to "lay aside every weight and the sin which so easily besets us." But what woman on earth, let me ask, can run the life race with patience dressed in modern style?

It is not a difficult task to emancipate ourselves from these bands which tie down the ribs three, four, and even six inches, and from the weight of clothing which is thrown off every night with a sigh of relief. It is easier than we dream to learn how to dress warmly, lightly, and beautifully.

The weight of clothing on the hips is one great obstacle in the way of curing many local female difficulties; and, until the mothers of our land become educated in anatomy and physiology, there is

little hope for the improvement of which our physical nature is capable. By studiously avoiding undue pressure on any part of the body, we can maintain its beautiful proportions to the latest day of life. "Prevention is better than cure."

Although the beautiful forms of Greek women have been talked of and written about for ages, we never tire of contemplating them. This nation of mothers would do well to add Greek modes of physical culture to the vastly superior methods of intellectual training now employed.

Temperance in all things characterized the Greek nation. Their matrons took great pride in a numerous and beautiful offspring. Their undergarments were knitted and made to fit the body perfectly, and enough of these worn to secure the equal warmth of the body. Loose robes covered these, and were made plain or elaborate, according to the wealth or station of the wearer. Bands around the waist, a weight upon the hips, and corsets were unknown.

There is no need to go back to ancient Greece for models of healthy dress—a sufficient variety can be obtained at the present day. We must work out our own physical salvation with great caution, and, in fitting ourselves or our children, fear and tremble lest the tiniest blood-vessel is compressed and unfitted for the work for which the Creator designed it.

The art of clothing one's self beautifully as well

as healthfully is now occupying the minds of many thinking people. The ball is rolling, and when women have acquired a knowledge of their need, and have sufficient determination to demand it, Dame Fashion will cater to them, instead of being the imperious mistress she now is.

Princess underwear suspended from the shoulders will supersede that now used.

There never comes a time in the life of any sane woman when she does not desire to look well and to know that she possesses the power to please; neither is she ever insensible to the voice of praise. To have the good opinion and esteem of those we truly respect and love, ranks among the highest enjoyments of life. To a mother there is no joy so great as to receive the appreciative praise of her children and those near and dear to her. In short, to grow old beautifully—to have old Time, while he takes away the youth of women, leave them the full possession of their charms—is what all should earnestly seek.

There is one branch too much neglected by the young women of the present day. I refer to the mother of arts and sciences, good cooking. The importance of scientific cooking can not be overestimated. Persons without brains can not learn the art. Intellectual labor is as dependent upon good and healthy food as our clothing is upon the fabric of which it is made.

A knowledge of how and what to eat and drink,

and how to make and wear the clothing, will put old age a long way off; it will preserve the freshness of youthful feelings a whole century. It is quite probable that some of the children now upon the stage may be induced to celebrate another centennial by understanding the science of cooking in its real adaptation to the needs of the system.

Another activity of which I would speak is the establishment of a Woman's Christian Association, the same in all respects as the Young Men's Christian Association. There is in every town of any considerable size a large self-supporting population; yet they are obliged to toil early and late, with little time to read or think, except in their daily round of duties. The monotony of this life engenders impatience and irritability; this is transmitted by mother to child; and this continued drudging has a tendency to degradation.

If these working-women knew they could of an afternoon or evening go to a reading-room, and have the opportunities their husbands have in renewing their thoughts and lives, by coming in contact with other minds, it would add a dignity to their lives. They would toil more cheerfully, their cares would sit lightly, knowing that somebody cares for them. There are many women starving for ideas, who could be made much more useful members of society, and much better mothers by this means. Books and papers out of use in the homes of the wealthy can be gathered to start a

library, and great good accomplished with comparatively little expense.

The pleasures of a useful activity well repay those who are at a loss how to employ their time.

"We have done those things which we ought not to have done, and left undone those things which we ought to have done, and there is no health in us"; these are words applicable to many women and girls of the present day.

Young people are careless of longevity; but "how precious are added years to the fullness of a healthy intellectual and Christian life."

How beautiful to grow old like Humboldt or Madame de Staël; like Ristori or Charlotte Cushman; to grow, as a recent writer expresses it, "like a wedge of gold—the thin edge beginning at birth, and ever widening until death."

Bodily activity can not be preserved but by a vigorous effort of the will. Unless the muscles and limbs are in constant use, they soon stiffen into uselessness; or if they share the experience of many in this latitude, will stiffen into rheumatism. Women are too much indoors. The air is full of life. It is necessary to live in it for hundreds and thousands of hours every year to make sure of its full benefits. It takes time to renovate the blood, and get the full health and vigor it has in store for us. We must go out often, and stay a long time. Persons who go out in all sorts of weather are rarely sick. Alexander Humboldt was delicate in

youth, but having an insatiable desire for great enterprises, exposed himself to all varieties of climate for the sake of being able to bear the fatigues of those wonderful explorations which have made his name famous the world over.

We are apt to forget that strength and activity enrich everything we do; even our thoughts are deeper and clearer, and we can accomplish much more in intellectual as well as physical labor, by being physically sound. It would be a good thing for the young to know what an enormous amount of labor nature has set upon high accomplishment in everything really worth pursuing. Instead of studying many branches, and half learning all, would it not be wiser to make selections, in cases where the time is limited, and learn thoroughly those selected?

MRS. E. G. COOK, M.D.

ABERDEEN HOTEL,
21st Street and Broadway,
NEW YORK, *December*, 1883.

CHAPTER I.

THE IMPORTANCE OF PHYSICAL CULTURE.

PROF. TYNDALL recently said that "It would be a great thing in this land of incalculable destinies, to supplement its achievements in the arts and sciences by turning attention to mankind itself, believing it would make man healthier, stronger, and purer. The dynamic element of brain is more needed than anything else in the breeding and training of children. Original research in this branch of science is more necessary than any and all others put together." The vital center of education is self-knowledge. The prevailing ignorance in regard to physiology, anatomy, and hygiene is truly appalling. Many educated people, who are conversant with many languages, living and dead, and all the kings of the old world, and dates of their administration, do not even suspect the nature of the processes of respiration and of digestion every moment going on in their own bodies.

Even men of general science, who have planned great inventions, and understand all machinery of

man's devising, know little of the most wonderful of all machines, the human body. If these scientific minds, which should be our teachers, know so little, what shall be said of the millions of farmers, mechanics, and laborers, the solid yeomanry of the land, on whose virtue and intelligence the welfare of the republic must ever depend? If, as in times past, when we were young, these studies were inaccessible, there would be some excuse for ignorance; but the sciences necessary for an intelligent understanding of these subjects have been brought to us in such simplicity that all, who will, may understand them.

Since 1776 chemistry has been almost created, and electricity has been revealed to man in its effects, if not in its nature. It serves him as his fleetest messenger through the air, and under the sea—copies his works of art, illuminates his habitations, and heals his diseases. Electricity being the finest substance in our bodies, is the first to become affected by disease. It is through this agency that some people have second sight, or become clairvoyant. The emotions of love, joy, and hope augment, while those of fear, revenge, or hatred diminish the electricity circulating in our bodies.

When we consider the marvelous scientific progress of the last half century, and contemplate the wonderful possibilities of the fifty years to come, and for which we have but laid the foundation, it ought to stimulate us to have the fruit of these coming years appear in the better development of our physical, and consequently of our mental and moral, natures. As physicians are the ones qualified to instruct on these subjects, it is their duty to see that in our schools, and all institutions of learning, hygiene is on the same footing with the languages, mathematics, and all other departments of learning. It should be made equally binding with all recognized studies in a course. The people have a right to look to those whose lives are devoted to this work to teach them what they ought to know. We have no right to withhold knowledge which will benefit the race or individuals. A miser of knowledge is worse than a miser of money.

All should understand that a secret in medicine is fraud and quackery of the rankest kind; and all persons, whether physicians or not, who have something wonderful, which can only be revealed on the payment of a price, are not to be trusted a moment. The various nostrums which flood the country are of this character, and were made to sell and fill the

pockets of the compounder. That there are cures sometimes may be true, but it is probably in cases where medicine has been used, and the faith with which the new remedy has been taken may give nature rest and sufficient impetus to repair the health. Instead of thanking the God of nature who has restored such, they extol some ignoramus, who often is too ignorant to write his own name.

The noblest part of our mission is not to cure, but to prevent disease; and to do this, a knowledge of the human body must be diffused throughout all classes of society.

Men say, with too much reason, "Woman is fickle." The world's record, however, shows many who have raised families well, and all along their lives maintained a growth in one or more of the sciences. It is true that most women underrate their power and ability to engage in the many and varied reforms which are needed to make a pure society—a society in which children can be born, and grow to the full stature of men and women, mentally, morally, and physically. It is not the want of native power, nor the want of opportunity, nor the prejudice or opposition of men, that lie in their way; but the need of disciplining their own faculties to special purposes. If the faculties are

educated, and receive the high culture of which they are capable, they will, like physical traits and characteristics, take on a more perfect growth in our children, giving them organizations susceptible of still higher development and polish. The apostle may have had reference to this when he said there was a diversity of gifts. A gift is a faculty trained to a special purpose. Men and boys have been educated for special callings many years; such education should receive for them still more attention, and just as much for women and girls. The women who are devoting themselves to the cause of women might, perhaps, do it more good if they lectured men less, and trained themselves and daughters more.

If mothers are ignorant of physical laws, dwarfed in all the features of their mental and spiritual beauty, how can they educate, refine, and lead their children to the highest attainments of which they are capable?

"Woman is measured in proportion as her whole nature grows," and understanding the arts and sciences does not unfit her for any of the relations of life. "Thought and culture are required to compass the fullness and sweetness of every human affection." This is emphatically *the time* to train the

woman of the coming generation, and fit her for the largest use of her faculties. We have been carried by public opinion, in spite of ourselves, to the verge of many reforms which embrace the necessities of humanity.

Our neighbors across the sea are in advance of us in some things. Governesses and teachers can not get employment there, unless they are especially trained for their calling, and have received diplomas. The universities of all important nations are now open to woman, and she receives degrees in medicine and law, and is working in harmony with men in teaching these sciences. There is a natural fitness in woman for initiating the reforms so much needed. It is eminently one of her rights. Elizabeth Blackwell says, that, as physicians, women have greater interest in their patients than in disease, and this leads them to study the means of guarding against sickness, as well as curing it. Men, on the other hand, lean toward the scientific aspect of disease, and seldom look beyond the cure, or alleviation of present suffering. In consequence of the absence of the feminine element in the medical profession, the subject of hygiene has been greatly neglected. The interest of medical men, and the public generally, in sanitary matters for

the past thirty years—an interest greater than at any previous period of the world's history—is owing to the impulse given it by Florence Nightingale, at the time of the Crimean war. Since that time a whole literature of sanitary reform and sanitary science has sprung into existence, and the subject is receiving more and more attention, as the years go by, in all civilized countries of the globe. It is never again likely to be disregarded or neglected.

One of the best signs of a purer society is the increasing attention given to the laws of health. Bad health is often sinful. People get sick and ask God for resignation, when they ought to pray to be forgiven for being sick. There are hereditary diseases and many others, which no amount of prudence of forethought could avert, but very many are the direct result of ignorance of, or violation of, physical laws.

Physical culture holds a high place in the estimation of those who believe in sanctification, as very few persons can live exemplary Christian lives with dyspepsia and the ills which accompany it. Doctors should teach the people how not to get sick, and disease will lessen to an astonishing degree.

There is such a mighty power in fashion that it almost hedges up the way to any permanent reform,

and unless women of education and good sense take hold of this work in earnest, the American nation must soon die out, and the German, Irish, and Chinese will inherit our fair land. Not one woman in a hundred dresses herself and her daughters according to the laws of health. Men and boys will not wear tight clothes. If girls could be as healthfully dressed as boys until maturity, we might hope to again see them resembling those who brightened the old New England firesides a century ago; girls who could spin and weave, wash and iron, harness a horse and drive him, as well as read innumerable books, paint, embroider, braid straw, as well as cut and make all the clothing the family wore. Girls then thought nothing of walking five miles to see a friend or to attend church.

The Chinese compress the feet of their female children to prevent their growth, so that the feet of a Chinese belle are no larger than those of an American girl of five years. The American women compress the waist, so that the waist of an American belle is no larger than that of a Chinese girl of five years. Which nation has the greater intelligence?

The beautiful statues of ancient sculptors bear

little resemblance to American ideas of an elegant form. If husbands of the fashionably dressed women were obliged to tie as heavy clothing about their hips, breathe in the closely-fitting stays, walk in the tight and toppling shoes, and undertake to carry on the business of life, they would have a foretaste of woman's self-imposed wrongs; and if I am not mistaken the pulpit and the press throughout the land would ring with notes of warning and fears, not only for this, but for future generations.

It would cure mothers of the idea that the arms and legs of young children need no clothing, if for one winter they would put themselves in their children's places. The fact that less heat is generated in the body during the evening than in the day is not understood by those who shiver over a register by day, and attend parties with shoulders and arms uncovered by night.

Many persons think they can not partake of the food best adapted to the wants of the body, but such only as gratifies the palate; a little perseverance in eating properly will convince such that the appetite and taste are easily educated. Death from starvation has never occurred, either among grown people or children, from obeying the laws of hy-

giene. Troublesome symptoms sometimes occur, needing all the strength and firmness of the human will to conquer, but always yield before danger need be apprehended.

If sickness comes, attention to symptoms early often saves protracted illness. All should understand how to adjust the conditions to favor the most speedy return to health. The young should be taught to take good care of the sick, and themselves in the meantime.

There would be less danger of taking cold, or of contracting disease, if the pores of the skin were kept free by a frequent sponge bath.

The Americans have labored beyond their strength to build this great and powerful nation; as a result there is a deterioration in the health of their children. No other country so much abounds in consumption, dyspepsia, and insanity as the United States. Dyspepsia is a national disease, and almost unheard of in France and other transatlantic countries. American women are famous for being beautiful, but delicate, and incapable of physical labor. The early and persistent training of the minds of American girls has weakened the body, and foreigners remark that "American women do not last." In Europe women are considered in the

prime of their vigor and beauty at fifty and sixty years of age. In America, at the same age, they are prematurely old. An eminent divine recently said that the saddest sight which greeted his eyes was the upturned faces of women past middle life in his congregation.

Could Raphael or Rubens find models in America for their grand paintings? We think it were much easier to find martyrs to the schools, and to the fashions. If women would adopt the improved modes of dress, and we could have a system of schools where the training of the muscles goes hand in hand with brain culture, and food selected with reference to the requirements of the body, the next generation would be as far in advance of this in well-developed, well-balanced, and healthy bodies as is this wonderful age in advance of the past in art, enterprise, and scientific discovery.

We might well imitate the Greeks, who gave prizes for excelling in beauty; among them a man might become celebrated for the perfection of his eyebrows. The beautiful proportions of Aspasia were transferred to the statue of a goddess.

Some of my readers may ask, how are the girls of this age to educate the muscles, and imitate by our modes of development the beautiful forms of

the women of ancient Greece? This, considering the way society views the subject of muscular development, is not easy to answer. When we see what the world calls a polished gentleman or lady, with no constraint or thought in regard to their movements, we know the muscles have been educated, that each fiber of which they are composed has undergone rigid discipline. We also know that this education began early, when the bones were cartilaginous; they can then be more easily brought under control of the will. Even at my age, I can not deny a fondness for dancing.

Without early education, the muscles are unable to stand the demands made upon them, the health suffers, and the life which seemed so full of joy goes out like a meteor, or lives disappointed and unsatisfied.

If the dullness and fatigue of school-hours could be broken once at least in each session by the inspiring sound of music, the little feet which can hardly refrain from stepping the time should be encouraged to march through its measures, then the monotony of school would be relieved, the tired heads would cease to ache, because the blood which rushes to the brain would be distributed to the skin and muscles. The languid expression, the

dull eye, and stooping form would change as if by magic, and animation, ambition, and inspiration would take possession.

We hope to live to see attached to *every* school-house in the land not only a commodious hall for gymnastic exercise, but a carpenter, a blacksmith, and a cooper shop—a place where boys can learn the first principles of useful labor; also a place where girls, as of old, can learn to cook, knit, and sew, and the first principles of dress and cloak making.

To all seminaries a kitchen should be attached, where each inmate could at least learn to make good bread and to cook a good meal before she graduates. There is scarcely a young person among us who has been (so called) thoroughly educated, who is not more or less crippled for life in some of his or her organs. The education is one-sided. People should learn that the work necessary to bring about this great and important change does not belong to the doctors alone, but depends upon the personal efforts of each individual. These efforts must be persevering and persistent.

Farmers who desire to have beautiful and healthy stock, adjust the conditions to favor this end, and take care of the colts, calves, and lambs. They do

not trust to nature to shelter and feed them, but faithfully carry out all the plans which help to make a beautiful and healthy growth. When they discuss means to promote this end, why do they not devise means to improve the human race as well?

It is but a few years comparatively since on the whole earth there was not an apple except the gnarly little crab; now there are between three and four hundred varieties of this beautiful and luscious fruit. The sweet-brier is the mother of all our beautiful roses. The wild plum, which can not be eaten, has been developed into a most palatable fruit by cultivation. The bitter almond is the mother of the great variety of peaches, which, in their lusciousness, would never remind us of its ancestor. And so it is with everything in nature, over which God has placed man, with power almost unlimited to beautify, fashion, and create.

We need strong mothers, who esteem it a privilege to raise healthy children. Much more depends upon them than upon fathers, as the laws of sympathy and transmission of qualities make them responsible, more than any mortal can estimate, for perfect and healthy children. These facts should

lead to more thoughtfulness, and an entire change in the manner of bringing up children.

There seem to be signs of awakening among medical journals and teachers in high-schools and colleges. They are calling for better material to educate. They would turn out a much stronger mental, moral, and physical growth had they better quality of brain for ideas and thoughts to grow in. There are many failures every year because of a lack of common-sense. This can be found in perfection only in a healthy body.

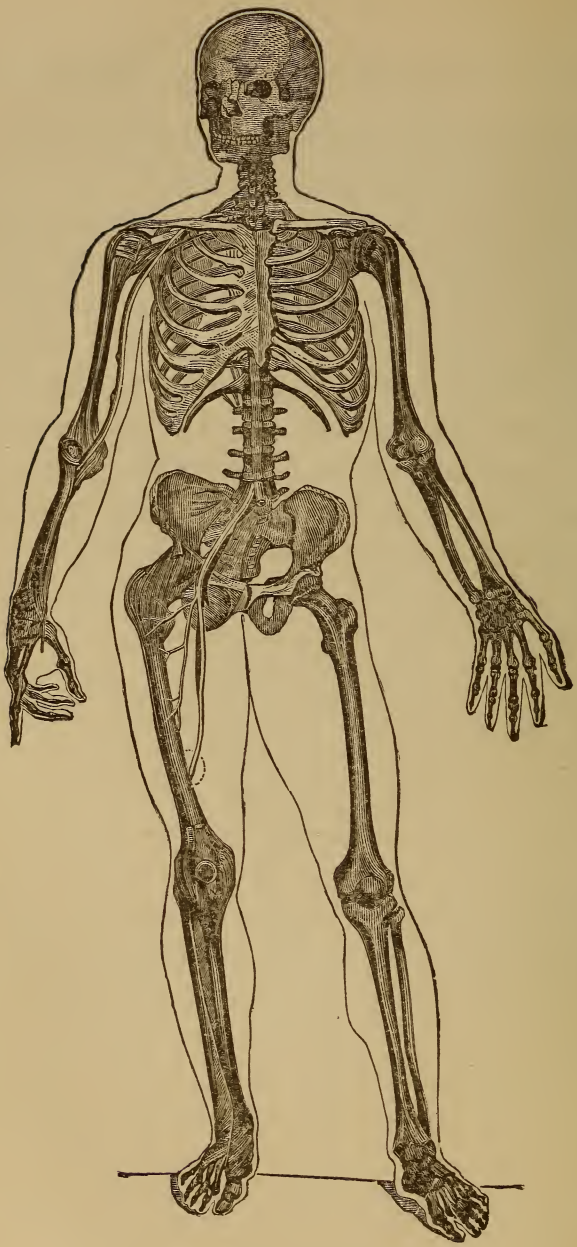


Fig. 1.—The Osseous System.

CHAPTER II.

BONE.

BONE is the hardest structure of the body. Its color, when first removed from the living body, is of a pinkish hue outside, and deep red within. It is composed of two kinds of tissue, one hard like ivory, the other of slender fibers called cancellous, from its resemblance to lattice-work. It consists of animal and earthy matter combined; the animal portion giving elasticity and toughness, the earthy hardness and solidity. The animal matter may be separated from the earthy by steeping bone in dilute sulphuric or nitric acid, by which the earthy matter is gradually dissolved, leaving a tough, semi-transparent substance, retaining in every respect the form of bone. This is softer and more flexible than cartilage. The earthy portion may be obtained by burning the bone; the animal matter will be entirely consumed, the earthy part will remain as a white, brittle substance, still preserving the original shape of the bone. Both constituents have the singular propensity of remaining unaltered

for centuries. In aged people the earthy or hard matter predominates, and for this reason old persons should be very careful in all their movements, as their bones are more easily broken than those of children, in which the animal matter is in excess. The bones of the latter are more apt to be bent than broken by injuries.

For classification the bones are divided into long, short, flat, and irregular. The long bones are found in the limbs, where they form a system of levers, which sustain the weight of the body and confer power of locomotion. Where the part is intended for strength, and the motion slight, it is divided into a number of small pieces and united by ligaments, as in the bones of the hand and foot. The flat bones are used for protection, as seen in the skull and shoulder-blade. These consist of two layers, and a variable body of cancellous tissue between them. In the head these bones are known as the tables of the skull; the outer one thick and tough, the inner one thin and brittle, thus preserving the brain from the shock of falls and jars.

The irregular bones are those which can not from their structure be grouped under the preceding heads. They are the bones of the spinal column, etc. The elevations and depressions upon the

bones are for the attachment of muscles, and articulation with each other. The small bones are supplied with capillaries filled with blood, and the large ones contain a net-work of blood-vessels and marrow. These blood-vessels often pierce the wall of the bone, and communicate with the periosteum (the membrane which surrounds the bone), to which all the muscles are attached. If the flesh is boiled sufficiently to fall off, a great number of these can be seen with the naked eye, and thousands with the aid of a microscope.

There are little grooves on the inner surface of the bones of the head, in which lie veins, carrying from the brain the impure blood, and when, from obstructed pores of the skin, cold or other disturbances these impurities are retarded in their exit, the vessels become engorged, and pain in the head, dizziness, etc., is the result. As the blood-vessels are the only way of escape for the waste matter in the brain, it is all-important that they be not crowded with more than their own work.

Nerves are distributed freely to the periosteum, and accompany the nutritious arteries into the interior of the bone. This periosteum is as necessary to the health and growth of bone, as is the skin to the body, as it contains the blood-vessels

which supply the bones with nourishment. One can distinguish young meat from old by the color of the marrow; the young has a reddish tint, the old a yellowish.

The cavities of the long bones are also lined with a membrane, through which the blood-vessels pass to nourish the bone and marrow. The cranium and spinal column are first developed in the fœtus, to which all other parts of the skeleton are by degrees appended, making the frame for holding together the soft parts of the body.

At a very early period in embryonic life the parts destined to become bone appear like cartilage, in exact imitation of the bone, which in due time is to take its place.

Ossification commences at certain points in the interior of the cartilage, from which it extends to surrounding substance, and not until the child is twelve years old are all the bones of the body hardened or ossified. The diet of the mother may retard ossification in the fœtus, adding much to the safety and comfort of the mother during parturition.

The entire skeleton consists of two hundred and four bones. The spinal column is composed of thirty-three, each one called a vertebra. Each ver-

tebra has seven projections, four of which are used to bind the bones together, and are called articulating processes; the other three, one on either side, and one on the back, are for the attachment of muscles. Between the vertebra is a peculiar and highly elastic substance called cartilage, which facilitates the movements of the back. This compressible cushion of cartilage serves the important purpose of diffusing and diminishing the shock of walking, running, and leaping, and protects the delicate structure of the brain; another protection is the forward and backward curve of the spinal column; a striking proof of the wisdom of our Creator. Were it a straight and perpendicular column the slightest jar in walking would cause it to recoil with a jerk, because the weight, bearing equally would not yield to either side; shaped as it is, it easily yields in the direction of its curves.

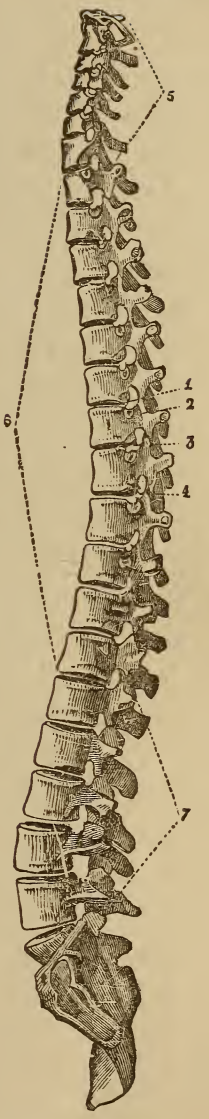


Fig. 2.—Spinal Column.

If a stooping position, or a lateral curved position be con-

tinued for a long time, the spine does not easily recover its proper position. The compressed edges of the cartilage lose the power of reaction, and one side becomes thickened, and these wedge-shaped cartilages produce a permanent curvature. In a similar manner the student, seamstress, artisan, and mechanic acquire a stooping position by inclining forward to bring their work nearer to the eyes. Pupils in writing at a high desk, with one shoulder elevated and one depressed, give the shape of the letter G to the spine, which position can not be taken if the rules for education here taught are observed.

In these deformities the right shoulder projects more frequently than the left. This arises from the greater use of the right shoulder. Not infrequently the oblique position is assumed in the performance of daily duties.

The loss of height and symmetry is of far less importance than the chest deformity, which always occurs, inducing disease of the lungs and heart. A startling fact, yet we must accept it. Eminent physicians, both in this country and the old, state that not one female in ten (I will add, a thousand), fashionably educated, is free from deformity of the shoulders or spinal column. Teach-

ers, as well as mothers, should notice the position of the child while performing the task allotted to it. The feebler the child the more frequently should there be a change of position. To correct a slight projection of the shoulder, the child should be made to walk one-half hour daily, with a book, or something heavier, on the head, to balance which the spinal column must be erect. People who carry burdens upon their heads seldom have a crooked spine. Persons from the North are surprised, when traveling in the Southern States, to see the heavy burdens the porters carry on their heads. They will walk at a rapid pace, with a trunk weighing from fifty to eighty pounds upon their heads. This is the easiest way to carry a load. Germans and Italians have found it out.

The pelvis is composed of four bones, viz.: the two innominata, the sacrum, and the coccyx. The innominata in the child consists of three pieces; these in the adult unite and form one bone. In the sides of these bones is a deep socket, like a cup, in which the round head of the thigh bone articulates. It is bound there by ligaments, as is the sacrum, whose upper surface connects with the lower vertebra. There is a difference in the male and female pelvis. In the male the bones are

thicker and stronger, and the muscular eminences and impressions on their surfaces more strongly marked. The male pelvis is altogether more massive, its cavity deeper and narrower. In the female the bones are lighter and more expanded. The muscular impressions on their surfaces are only slightly marked, and the pelvis, generally, is less massive in structure. The iliac fossa are broad, and the spines widely separated; hence the great prominence of the hips. The inlet and outlet are larger, the cavity more capacious, and the spines of the ischia project less into it. The promontory is less projecting, the sacrum wider and less curved, and the coccyx more movable. The arch of the pubes is wider, and the edges more everted.

The thorax is formed by the sternum in front, the ribs at the sides, and twelve dorsal bones at the back. The natural form of the chest is a cone, with its apex above, as seen in Fig. 3; but fashion has in many instances nearly inverted this order. This cavity contains the lungs, heart, and large blood-vessels. Compression of these organs, however slight, can not fail to weaken them, and consequently to shorten life.

The clavicle, or collar bone, is shaped like the letter f; its use is to keep the arms from sliding

toward the breast. It is attached to the sternum in front, and to the scapula, or shoulder-blade, at its other extremity. This latter bone lies upon the upper and back part of the chest, and is held in

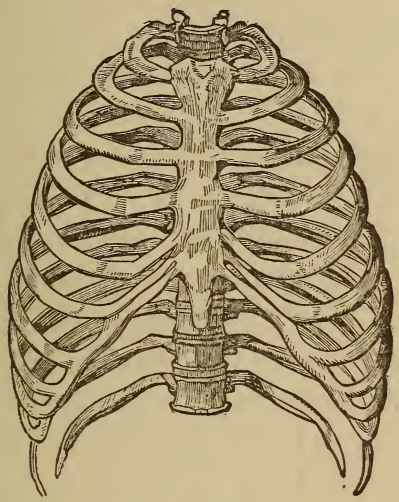


Fig. 3.—The Thorax.

1. The *manubrium* (upper portion of the sternum). 2. Its body (middle portion). 3. Its ensiform cartilage (lower portion). 4. First dorsal vertebra. 5. Last dorsal vertebra. 6. First rib. 7. Head of first rib. 8. Its neck. 9. Its tubercle. 10. Seventh rib. 11. Costal cartilages of the ribs. 12. Last two false ribs. 13. The groove along the lower border of each rib.

position by muscles; by their contraction it can be lifted at will.

The hand in its wonderful adaptation to all the offices of life, is one cause of man's superiority over the brute creation.

The bones of the foot are so united as to give it the form of an arch, which conduces to the elasticity of the step. The mode of having too high heels, and their being placed nearly in the middle of the shoe, gives a toppling gait, which is insecure, and tends to weaken the muscles of the foot and leg, and have been known to produce curvature of the spine.

The bones increase in size and strength by use, while they are weakened by inaction. The gelatinous bones of children are not so well adapted for labor and severe exercise as those of the adult. They become easily crooked, and their beauty and strength impaired for life. On the other hand, moderate and regular labor and exercise favor a healthy development of bone. The imperfectly developed bones of the child will not bear long-continued exertion or position without injury. A child under twelve years of age should never remain in one position longer than half an hour, and should never sit without its feet supported, as it tends to produce round shoulders, if long continued. The erect position should positively be enforced while sitting. Leaning on tables with shoulder-blades elevated, or with one arm, as in writing, will tend to curve the spine.

Only one word more, and I will dismiss the dry (to some) subject of the bony structure in which we live.

If the gelatine predominates, the bone is weak and becomes distorted. When nutrition is defective in the round bones, the heads are generally enlarged, and the shafts crooked; this disease is generally known as rickets. The first appearance of these symptoms should receive attention, as, if left to make considerable progress, it is very difficult to cure.

If a bone is broken some days elapse before the substance which reunites it, is thrown out from the blood. When the bone is uniting, the attention of the surgeon is more needed than during the first week. When the swelling and pain abate, the patient many times intimates to the surgeon that his further services are not needed, as the limb is doing well; but unless the ends are nicely adjusted and properly dressed, the person will find on recovery a shortened or crooked limb. The surgeon is then censured, when he is not to blame.

It would seem, that if a portion of bone were removed by injury or disease, as is often the case, nature could not replace it; such is not the fact, however. A case came under my observation lately, in a

scrofulous patient, where the humerus became diseased to that degree that its removal only could save the boy's life. Decay had gone on so far that the bone crumbled in the surgeon's hand; but in a remarkably short time nature put in a new one, and the boy is well to-day.

In compound or comminuted fractures new deposits attach to the broken ends, and approach each other until they meet.

Bones become brittle in proportion as the cartilaginous part decreases; sometimes in old age broken bones will not unite for want of it.

I can not too strongly impress the importance of loose garments, and the right exercise and food for the bony structure of the body. Mothers can not be too watchful or know too much on this subject, as the health, beauty, and grace of movement, as well as the usefulness of children in after-life, all depend upon a healthy bony framework; upon this the muscles are to attach themselves, forming a garment of protection, as well as the moving power of the bones.

CHAPTER III.

MUSCLES.

In the structure of the body there is a union of fluids and solids. These are essentially the same, for one is readily changed into the other. There is no fluid that does not contain solid matter in solution, and no solid matter that is destitute of fluid. In different individuals and at different periods of life the proportion of fluids and solids varies. In youth the fluids are more abundant. For this reason the limbs of children are round and soft, while in old age they assume a hard and wrinkled appearance. I will say here that a careful attention to the laws of health will preserve, in a great measure, a youthful appearance of the muscles in the aged.

The fluids not only contain the material from which every part of the body is made, but they are the medium of conveying the waste and decayed particles of matter from the system. They have various names, such as the blood, bile, etc., etc.

The solids are formed from the fluids, and can be chemically reduced to the same elements. The particles of matter in solids are arranged variously: some in fibers or threads, some in laminæ or plates, etc. Thus we have in the body fibers, fasciculi, tissues, organs, apparatuses, and systems.

A fiber is a thread of exceeding fineness, either round or flat. A fasciculus is several fibers united. Tissue is a name applied to several different solids of the body: as nerve tissue, cellular tissue, etc., etc. An organ is composed of tissues so arranged as to form an instrument designed for action; the action is called function; thus the function of the lungs is to breathe, of the liver to make bile from the blood, etc. An apparatus is an assemblage of organs designed to produce certain results; for example, the digestive apparatus consists of teeth, stomach, liver, etc., all of which aid in the digestion of food.

The term system is applied to an assemblage of organs arranged according to some plan, as the nervous system, the respiratory system. A tissue is a simple form of arranged animal substance; it is flexible and formed of fibers interwoven in various ways, as cellular or muscular tissue. Although all the organs are so varied in their structure, they

can be reduced to a few tissues, viz., cellular, muscular, osseous, mucous, and nervous. The cellular tissue consists of small fibers or cylinders, varying from .0003 to .0008 of a line in diameter, interwoven so as to form a net-work, with openings which communicate freely with each other. These openings or cavities are filled during life with a fluid resembling the serum of the blood. It is a watery-looking substance, and this membrane is used to cover, protect, lubricate, and bind together, as well as to separate the vessels, nerves, and organs. When this watery fluid becomes too great in quantity by disease, the patient has dropsy. The swelling of the feet when standing, and their return to proper shape during the night, teaches us that there is direct communication throughout all parts of the body. This free communication between the cells is still more remarkable in regard to air. Sometimes an accidental opening has been made from the air-cells of the lungs into the contiguous cellular tissue; the air has penetrated to every part of the body and produced suffocation. Butchers sometimes avail themselves of this knowledge and inflate their meat, giving it a plump appearance, but it shrinks in boiling. Although this tissue enters into the composition of all organs of the body, it

never loses its own structure or participates in the functions of the organ of which it takes a part.

The serous tissue lines all closed or sac-like cavities of the body, as the chest, joints, and abdomen. It not only lines them, but is reflected and covers the organs contained in them. Thus the liver, lungs, and bowels are lined or covered with this smooth, moist membrane, which is kept moist by its power to secrete from the blood, and prevents them from adhering. The elements of this cellular or combining tissue, in whatever part of the body it occurs, are long, fine cylinders, varying from $\frac{1}{3000}$ to $\frac{1}{8000}$ of a line in diameter, and lying in close apposition. They are firm and elastic. When boiled they at first become harder and more rigid, but afterward soften and dissolve into gelatine. If you will watch a piece of meat put into boiling water, you will see that at first it shrinks and hardens, and continued boiling or simmering is required to make it digestible.

The dermoid tissue is the skin, and the mucous membrane is a continuation of it at the various orifices of the body. The close sympathy between the skin and mucous membrane is remarkable and deserves special attention. If the insensible perspiration is checked and a chill follows, you may

very soon feel catarrh, or diarrhœa, or an affection of some part of this membrane in the body. By exciting again a free action of the skin these disturbances cease.

A diseased mucous membrane of the stomach or bowels will sometimes produce an eruption of the skin. Chronic roughness of the skin is often nothing but disease of the stomach, indigestion, catarrh, or some chronic affection of this membrane.

Fibrous tissue consists of longitudinal fibers parallel to each other and closely united. They sometimes form a strong membrane, thin and dense, like that lining the internal surface of the skull and the surface of the bones. In others they form strong inelastic bands called ligaments, binding one bone to another. This tissue also forms the white cords or tendons which attach the muscles to the bones. In rheumatism the fibrous tissue is the part principally affected; hence the joints where it is most abundant suffer most.

The adipose tissue is so arranged as to form bags or cells; these contain fat. It is found beneath the skin in the abdominal muscles and around the heart and kidneys. There are none in the brain, eye, nose, ear, and several other organs. Sometimes a fat cell accumulates and becomes larger

than the surrounding ones, and tumor is suspected.

The cartilaginous tissue is firm, smooth, and highly elastic; except bone, it is the hardest part of the animal economy. It tips the ends of bone that concur in forming a joint, to prevent concussion. It facilitates the motions of joints by its smooth surface, and saves the shock to the various bones of the body in rapid movement. Between each vertebra of the spine this cartilage forms an elastic cushion, which, while it facilitates movements in all directions, saves the shock to the brain which sudden movements would bring. It is compressible, and children sitting in a stooping position long at a time, cause one edge to grow thin while the other increases in thickness, making the round shoulders which deform so many. We can not too strongly insist on an upright position in sitting, for children as well as for people of sedentary habits. Various opinions exist among physiologists in regard to the marrow. Some suppose it to be a reservoir of nutriment for the bone, others that it keeps it from becoming dry and brittle. It is still a question among the most advanced in physiological science what the function of this substance is.

The muscular tissue is composed of many fibers

or threads, which unite and form fasciculi, each one of which is inclosed in a delicate sheath of cellular tissue. Bundles of these fasciculi constitute a muscle. A piece of boiled beef will illustrate the arrangement of muscular fiber.

The mucous tissue differs from the cellular by its lining all the cavities which communicate with the air; for example, the nostrils, mouth, and stomach. It is always kept moist by a viscid fluid secreted from the blood; hence the need of good blood. If these cells become inflamed from cold, a chill, or inattention to the skin, unless soon relieved, ulceration follows, and pus will be secreted instead of the natural lubrication, and in greater quantity. Catarrh is an example. Some of the mucous membranes are hard to heal on account of their structure. This mucous membrane is constantly undergoing renewal. The old layers are falling off and new ones produced. In the pulmonary and intestinal mucous membrane mucus is secreted to shield the surfaces from the air, solids or liquids. But for this, inflammation would destroy sooner and surer than now. This covering, so little thought of or understood, is ordinarily an extremely thin layer, but if the membrane which it covers is inflamed, it becomes thickened, and discharges quan-

tities of mucus or pus which mix with the secretion of the organ. The thickness of this membrane closes the nostrils in a cold. Mucus is from this cause formed in the urine, in the lungs, and in stools. The importance of knowing how to care for the mucous membrane can not be overestimated. Catarrh, consumption, liver, kidney, and bowel diseases—in fact, nearly all the ills which afflict humanity—come from neglected colds.

The nervous tissue, which makes us feel and know all we do, is composed of soft, pulpy matter, inclosed in a sheath. It consists of two substances—one pulpy and gray, the other fibrous and white. In every part of the nervous system both substances are united. All the great motions of the body are caused by the movement of some of the bones which form the framework of the system; but these, independent of themselves, have no power of motion. They only change their positions through the action of other organs attached to them. These moving, contracting organs are the muscles (lean meat). They constitute the great bulk of the body, by their size and number, and bestow beauty and symmetry of form. In the limbs they are situated around the bones, which they invest and defend, while they form the prin-

cipal protection of some of the joints. In the trunk they are spread out to inclose cavities, and constitute a defensive wall, capable of yielding to internal pressure, and again resuming its original state. In structure a muscle is composed of fasciculi (bundles of fibers) of various size. These are inclosed in a cellular membrane, investment, or sheath. Every bundle is composed of a number of small fibers, and each fiber consists of a number of filaments, each of which is inclosed in a delicate sheath. Toward the extremity of the muscle the muscular fiber ceases, and the cellular structure, of which we have spoken, becomes aggregated, and so modified as to constitute tendons, by which the muscle is tied, or grows to the surface of the bone. This union is so firm that under extreme violence the bone will sooner break than permit the tendon to separate from its attachment. By examining a piece of boiled beef, or a leg of fowl, one can see the structure of a fiber and tendon of a muscle. In forming a muscle the fibers assume various arrangements. Sometimes they lie longitudinally, and terminate at each extremity in a tendon, the entire muscle being spindle-shaped. In other cases they are disposed like the rays of a fan, converging to a tendinous point, and constituting a radiate

muscle. Again they are penniform, converging, like the plumes of a pen, to one side of a tendon which runs the whole length of the muscle; or bi-penniform, converging to both sides of the tendon.

Each fiber, however small, is supplied with arteries, veins, lymphatics, sensitive and motor nerves. Tendons are made of cellular tissue, and at the end of a muscle, spread out to form fascia, or aponeurosis. It is of various extent and thickness. An instance is seen in the membrane which envelops a leg of beef, and on the edges, when slices are cut for boiling. It forms, as I said before, distinct sheaths for all the muscles, and if injured is much harder to cure than a bone. This fascia helps the muscles to move, aids in the circulation of the fluids, etc. The interstices are filled with fat, and by its presence we all know that beauty is added to our bodies. Lean persons have as strong, and sometimes much stronger, muscles than fat ones, but are not as comely. When we are sick, and can not take food, the body is sustained by the absorption of fat. The removal of it into the blood causes the hollow eye and sunken cheek after a sickness. The number of muscles in a body is more than five hundred, and in general they form about the skeleton two or more layers, some

deep, others superficial. Some of them are voluntary in their motions, or act under the government of the will; others are involuntary, and act without the control of the individual, as the heart and respiratory muscles. The abdominal muscles are expiratory, and are the chief agents for expelling the residuum from the rectum, the bile from the gall-bladder, and the contents of the stomach when vomiting. It is by their action, also, that irritating substances in the bronchial tubes and nose are expelled by coughing and sneezing. To produce these effects they all act together. Their violent action sometimes produces hernia or breach. The contraction and relaxation of the abdominal muscles and diaphragm stimulate the stomach, liver, and intestines to a healthy action, and help digestion. People troubled with constipation should understand this, and by rubbing and kneading the abdomen help to overcome it.

If the contractility of their muscular fiber is destroyed or impaired, the tone of the digestive apparatus will be diminished, and indigestion and constipation is the result. This is often followed by a displacement of those organs, as they naturally gravitate toward the lower portion of the abdominal cavity, when the sustaining muscles lose their tone, or become relaxed.

There are six layers of muscles on the back, all acting differently, or in different directions. The diaphragm, or midriff, is the muscular division between the thorax, or chest, and the abdomen. It is penetrated by the æsophagus, on its way to the stomach, by the aorta in conveying blood to the lower extremities, and by the ascending vena on its way to the heart. The diaphragm may be compared to an inverted basin, its bottom being turned upward into the thorax, while its edge corresponds with the outline of the edges of the lower ribs and sternum. Its concavity is directed toward the abdomen, and this cavity is very much enlarged, at the expense of that of the chest, which is diminished to an equal extent. Free expansive movements should be given to every inspiration, and the clothing made so loose that in no case will it interfere with the largest measurement possible. These muscles, as well as those of the entire body, bear such intimate relations to our pleasures and enjoyments, all should possess a knowledge of their actions, and the conditions upon which their health depends.

The contractile effects of the muscles, in producing the varied movements of the body, may be seen in the bending of the elbow. The alternate relax-

ing and swelling of antagonistic muscles, in different movements of the limbs, can be felt. It is wonderful that every fiber of the several muscles receives from the brain, through the nervous filaments appropriated to it, a certain influence, called nervous influence or stimulus. It is this which induces contraction, and the removal of it causes relaxation. By this arrangement the action of the muscular system, both as regards duration and power, is, to a limited extent, under the control of the will. The more perfect the control, the more perfect the education of the muscular system, the more graceful and effective will be all our movements.

The Divine Architect of this complicated machine has wisely ordered that the muscles—upon which digestion, absorption, and circulation depend—should not be governed by our will; they are involuntary in their movements. Breathing could not be performed while asleep if dependent upon our will. Could we behold the muscular fibers in operation, as a mechanical exhibition, nothing can be conceived more sublime than the intricate and combined action that must take place in our movements. Look at the eye of a person who is running or leaping—intense, rapid, and yet

how accurate are the motions required. Think of the endurance of such a muscle as the heart, that can contract with a force equal to sixty pounds, seventy-five times every minute, for eighty years together,

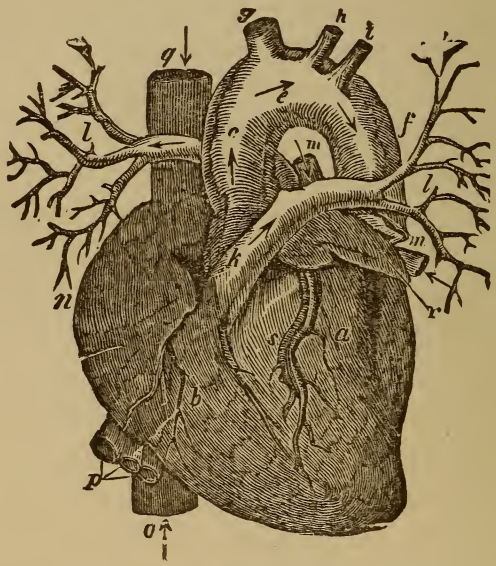


Fig. 4.—THE HEART.

a. Left ventricle. *b*. Right ventricle. *c*, *e*, *f*. Aorta arising from the left ventricle. *g*. Arteria innominata. *h*. Left subclavian artery. *i*. Left carotid. *k*. Pulmonary artery. *l*, *l*. Its right and left branches. *m*, *m*. Veins of the lungs. *n*. Right auricle. *o*. Ascending cava. *q*. Descending cava. *r*. Left auricle. *s*. Left coronary artery. *P*. Portal veins, which return the blood from the liver and bowels.

without being weary. The muscles should be used in order that their size and strength may be equal to the demand made upon them. If not used, they

decrease in size and power. When in action, the flow of blood in the arteries and veins is increased; this causes a more rapid deposition of nutritive particles of matter, of which the muscles are made; and by judicious care—by this I mean exercise, without overdoing—the greatest power may be retained until old age. It is diminished in size and strength when exercise is continued so as to produce exhaustion. Exercise, either for profit or pleasure, may fatigue; but it should never be protracted to languor or exhaustion if the individual desires long life, or a "green old age." The muscles require pure blood, which can only be made when the digestive organs are in a healthy condition, the skin healthy and clean, and a sufficient amount of clothing worn to keep the body warm. The ends of the ribs are cartilaginous, and can be compressed so as to displace the lungs and heart upward, and the stomach and liver downward, so that the entire viscera of the trunk is out of its natural order. This explains the necessity of wearing loose clothing; unless the ribs and diaphragm act freely the lungs can not be supplied with pure air. The purer the air we breathe, the more stimulus the blood gets to carry to the muscles, which will cause them to endure exercise longer without

injury. A sick person can sit up longer in fresh air than in a close room. The light of the sun exercises more or less influence upon man as well as on plants. Both require the life-giving stimulus of this agent. The exercise of invalids, if possible,

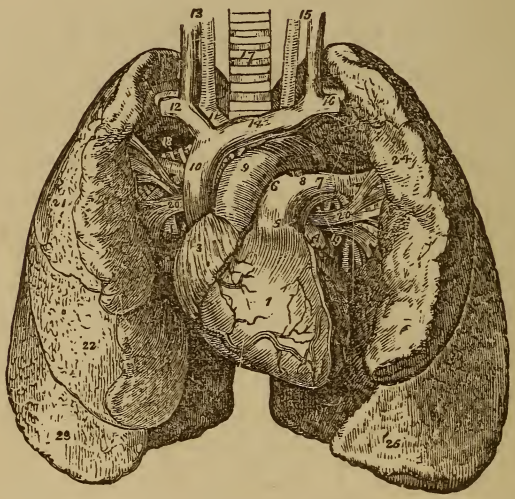


Fig. 5.—Heart and Lungs.

should be in the open air, and at regular intervals, and every muscle of the system should receive its share. If the invalid can not go out, the windows should be raised, the room cooled, and the person should walk, run, creep, or roll over until fatigue suggests the time to stop.

I have spoken indirectly of compressing the chest.

I feel that, unless mothers receive a different stimulus from that which now animates them, our next generation of women will be no stronger than this, and what to add that will induce them to act in this all-important matter is a grave question. At all times, and especially during exercise, should the muscles of the chest particularly have full expansive power. When measured by a dressmaker take the fullest inspiration, and hold the breath until the measurement is completed, or have one measure taken, and wait for another inspiration. In ordinary waists which we see, one-half of the lungs is deprived of air in the morning, and not again filled until the clothing is removed at night, which generally brings a sigh of relief. Just in proportion as the lungs take carbonic acid from the blood, and add to it oxygen, is the health of the body increased or diminished.

A constant supply of arterial blood is necessary to maintain muscular contractility. If for one moment this food is taken from the heart, lungs, or brain, we die. If taken from any other muscle, it can not act. Thus we see the importance of freedom for the lungs, that every tiny cell may have room to open its mouth, so to speak, to the fullest extent, for this life, this oxygen, which *is* the life of the blood.

The amount of muscular power developed in our bodies depends upon the amount of oxygen consumed by the lungs, just as the heat of our houses depends upon the quantity of fuel consumed.

Muscles, though not dependent upon the nerves for their peculiar vital power, *are* dependent upon them for the exercise of that power. The stimulus which excites contraction operates first through the brain on the nervous filaments which enter the muscles, and through them on the muscular fibers. Muscular fibers, completely isolated from all connection with the body, may be seen to contract, under the microscope, by the influence of stimulus. This stimulus in the living body, in most cases, is the will, and emanates from the brain. A muscle in rapid motion is heated by the oft-repeated contractions, more blood is forced into the vessels, and more nutrient cells deposited in consequence ; this is why muscles used are larger and stronger than those unused.

It is said that electricity is developed during muscular contraction, which I believe. This accounts for the benefits of massage. A very little study and observation will teach any one who has health to use this power, and the more intelligent the individual, if healthy, the greater benefit can he confer on persons sick, or weaker than

himself. Let us see, then, that food of a proper kind is taken to give the necessary nutrition, and that every muscle in the body is exercised daily, and each woman begin to live intelligently, and redeem herself from the sin of being sickly, and free herself from the responsibility of making a generation of invalids.

There is strength in habitual exercise, which can not be acquired by irregular or short intervals. It is easier to study all day, or sit all day at a desk writing, drawing, or painting, than to regulate the exact amount of exercise, each hour, which the body needs to make it most perfect. "We need this faith in exercise, the firm conviction of its necessity, which makes us go out in all weather, and leave the most urgent intellectual labor for the mere discipline and hardening of the body." "The desire to concentrate good of various kinds into the smallest possible space is one of the commonest of human wishes, but it is not encouraged by the broader economy of nature. In the exercise of the mind every teacher is aware that time is an essential factor. Even the fresh air itself requires time to renovate the blood. It can not be concentrated; and to breathe the prodigious quantities of it which are needed for perfect energy we

must be out in it frequently and long. Exposure is as much needed as exercise; those persons who are out in all weather, as a rule, have the greatest vigor, and rarely have to consult a doctor. If the muscles are full of strength and vigor, the mind takes its share, and whatever is undertaken is better accomplished. It gives an inspiration and direction to our thoughts; it leads to explorations, and discoveries which, with intellect only, we could never accomplish.

Mothers and teachers rarely take into account the importance of educating the senses as well as the muscles. Those who are familiar with the writings of Madame de Staël will remember that to the sense of hearing most of her large attainments were due. "Her ears were her providers, and she used her eyes so little, that she might almost as well have been blind." She said that were it not for respect to custom she would not open her window to see the Bay of Naples for the first time, whereas she would travel five hundred leagues to talk with a clever man whom she had not seen. Others depend almost entirely upon what they see; they have different ways of looking at objects—while one person observes a beautiful tree, another will see only its shadow and the beautiful play of

light and shade among its branches. While one writes memories of what they hear, others make drawings to represent the objects or places they have seen. All the senses vary in different individuals, and the one which seems to revel in exercise is the one which should be educated and exercised most.

"The taste of fruits, the perfume of flowers, are a part of the means by which the spirit of nature influences our most secret thoughts and conveys to us suggestions, or carries us into states of feeling which have an enormous effect upon our thinking, though the manner in which the effect is produced is one of the deepest mysteries of our mysterious being."

By knowing how to develop and care for the senses they can be preserved in all their freshness to old age. To accomplish this, excesses of all kinds must be avoided. We may know "the exquisite taste of common dry bread, enjoy the perfume of the distant woods, and feel delight when the gentlest zephyrs fan us. To cultivate and keep the power which well-trained muscles and nerves will give us, requires self-government and a firmness which is rare.

"The gifts of God come to us not by asking for them, but by becoming fit to receive them."

CHAPTER IV.

VENTILATION AND THE IMPORTANCE OF HYGIENE.

It is believed by the best authorities that about forty per cent. of all deaths are due to the influence of impure air. The register of vital statistics of New York City gives nearly half its deaths from this cause. In one year alone in the city of Philadelphia, said to be the healthiest in the United States, 6,868 deaths occur from impure air. Allowing twenty-five to thirty days of sickness to each, it gives 200,000 days of sickness annually as an effect of foul air. We can not estimate this loss in dollars and cents, to say nothing of the suffering.

In this country and in Europe the authorities are awakening to the importance of this subject, and are expending immense sums of money for improving the sanitary condition of its cities. Dr. Hutchinson estimated the loss to the city of London, growing out of preventable deaths and sickness, at $20,000,000 annually; and Mr. Mansfield estimates

the loss, from the same cause, to the United Kingdom at $250,000,000. In the small State of Massachusetts the annual estimate exhibits a loss of $60,000,000 by the premature death of persons over fifteen years of age.

Consumption is the result in many cases of breathing impure air. In building houses, people have only considered warmth and light, and light in most instances does not receive the attention it ought. It requires a great deal of thought and the exercise of a high order of intellect to supply an abundance of pure air in otherwise tight houses. The external air all over the world is of an almost uniform purity; even in large cities this is remarkable, but in houses this is far different. Greenhouses show no trace of carbonic acid. Plants absorb that and give off oxygen. Animals absorb oxygen and give off carbonic acid. Therefore, plants in living rooms are healthy, and should be found in every spare window where the sun shines. They are good for the morals as well as the health. As a rule the external air does not contain the impurities from which disease comes, but houses which are built for protection are in many cases converted into charnel-houses. Our own breath is our greatest enemy.

There was published a few years ago a wonderful cure of consumption, performed by removing the patient to a stable, where he could be in close proximity to a cow—not that the cow had anything to do with the cure, except to supply the rich, warm milk, which is the consumptive's best food, and which, being taken warm, loses less of its electricity. But the air of the stable is purer than that of bed-chambers. Much of the benefit which people obtain who go to the seaside and the mountains could be had at home by pitching a tent in the door-yard and living in the open air for a season.

Cities are not unhealthy from the outside air, but from the closely-built tenements, which shut out a large portion of the life-giving element. The vast ocean of air always in motion would carry life and health to thousands who are dying, could it have access to them. This is the great reason why persons who live in filth are often healthier than those in closely-built mansions.

One reason why the heat of the open fire is more healthy than the heat of stoves is that it more nearly resembles the sun by radiation. Our bodies are hotter than the air because they, like other bodies, absorb the heat, and leave the air cooler for

breathing. It is suspected by scientists that the electric or ozonic condition of the air is changed by passing over hot iron. This can not occur when rooms are heated by an open fire, and with them it is almost impossible to have stagnant air. Nature has made wonderful provision for creating a constant circulation of air. The sun's rays, in passing through it, do not heat it, but they heat the earth at the very bottom of this ocean; this in turn heats the air by radiation. Some substances radiate or throw off heat faster than others. Particles of heated air expand and rise, and cold particles rush in to fill their places, as there can not be a vacuum. Some substances absorb and some reflect, while others radiate the heat, so that the air is never absolutely at rest anywhere. A constant supply of fresh air is no more necessary than to have a way of escape in the floor, or near it, for the carbonic acid which is thrown off from our lungs at every breath. Damp air is not as injurious to the lungs as to the skin. The electric or ozonic condition of the atmosphere has more to do with its uncomfortableness than its dampness; when it is positive it is bracing and refreshing; when negative it oppresses and debilitates. If the skin is warm no fear need be felt of breathing damp or cool air,

either waking or sleeping. Students, of all people, should understand ventilation. The weariness and headaches which come of close application, will be greatly lessened by giving the lungs all the pure, sweet air they can possibly contain. Children can play longer without fatigue in fresh air than when confined indoors. All workers know that fatigue and exhaustion come sooner if there is a lack of fresh air.

Besides being well ventilated, our homes should be full of light and sunshine; the floors should be kept clean, and the ceiling frequently whitened or calcimined. Sleeping-rooms should be furnished with rugs or mats which can be thoroughly cleaned each week. If people will cover the floors of bedrooms, let it be with straw matting; wool mats and rugs can be used in richness and profusion, sufficient to gratify the taste of the most fastidious. There should be no drafts of air in sleeping-rooms, neither should persons sit in a current of air. Chamber utensils and crockery should be kept scrupulously clean, and when possible the windows of sleeping-rooms should be left open during the day, and nearly or quite closed on going to bed. There are machines for generating ozone, so simple and inexpensive that where people can afford to have a kerosene lamp,

they can also have this apparatus to prevent all foul odors, and to destroy the germs of disease. The days of whooping-cough and scarlet and typhoid fevers will be among the things of the past when the laws of hygiene are fully understood by the common people. Within the last ten years, Prof. Huxley says, 10,000 children have died from scarlet fever in England alone. This does not include the number of maimed and diseased for life. The cause of this terrible scourge will be removed, and the massacre of our innocents come to an end, when the colleges make hygienists, as well as physicians. "The people perish for lack of knowledge." Doctors are the proper ones to teach this subject. In a recent advertisement in a medical journal we were shocked by the paragraph at the end, which read: "The interests of physicians carefully guarded." How long, O Lord, how long, before human nature can become grand enough to "do unto others as they would that others should do to them"?—before men and women can go into the highways and hedges and teach the laws of prevention, instead of dispensing drugs for the thousand ills which afflict humanity? He or she who shall be the means of securing public baths for the poor, and industrial schools where useful labor can

be taught with book knowledge, and the laws of health to all, including the outcast and her children, will be a greater philanthropist than any who have gone before.

Without some able mind to draw electricity from the clouds to the earth, and chain it to our thought, where would have been our wonderful system of telegraphy, and the still more wonderful telephone! Jenner's discovery of vaccination has saved millions of lives. But for the far-seeing eye of the educated physician, our country to-day would not occupy its advanced position among the nations. The system of quarantine stays the plague. One hundred years ago seamen died by the thousand of scurvy, a disease almost unknown at the present day. It is well to pray for deliverance from cholera and yellow fever, if we at the same time avail ourselves, as a nation, of the best sanitary conditions. "The alleviation of the miseries of mankind, and the promotion of its welfare, must be sought diligently and untiringly, by patient and loving study of all the multitudinous aspects and secrets of nature, until exact knowledge or science is the result; then it will be somebody's fault if scarlet or typhoid fever is allowed to spread."

The study of hygiene has received attention in all parts of the civilized world since Florence Nightingale became a ministering angel to the soldiery of the Crimean war, and called attention to it; but what has been learned is but a drop in the mighty ocean of knowledge which must be taught to all who have sufficient brains to realize the fact that the human race, as well as plants and animals, is subject to improvement. The authorities, when once aroused, will attend to the sanitary conditions which each season of the year requires. Sickness comes with the melting snow, and great care in eating, and attention to the laws of health, should at this time be used. Closets and cess-pools need lime and copperas each week. All decaying vegetables and garbage must be removed and covered with earth, instead of remaining in cellars, or standing in streets, sending out its effluvia and sickening odors. It should be a law, and a heavy penalty attached to the breaking of it, that each rented house, or apartments rented for sleeping-rooms, should have sunlight either morning or afternoon, and also means of ventilation. It would be better for people to live in tents the whole year round than in many dark, damp, and smoky places into which human beings are crowded with no possi-

bilities of cleanliness or of pure air. We trust the time is not far distant when tests for impure air will be made by health officers, and the apparatus for its purification supplied to those unable to procure it themselves.

The blue-glass theory has faded away, but we, if we could, would build tenement-houses with windows to imitate the colors of the rainbow. This may have been the lesson the Creator intended when he flung it, in all its marvelous beauty, across the sky. The arithmetic of health needs to be understood more than numbers. The young have greater need, as they, more than the old, will have opportunity to profit by it.

The three necessaries for health and comfort are warmth, fresh air, and moisture. When in motion, warm air rises and cold air falls; when at rest, the stratums of different temperatures arrange themselves transversely; for these reasons, the windows of sleeping-rooms should be made to raise from the bottom and lower from the top.

Some reasons why scarlet fever and diphtheria make such ravages in country, as well as in city homes:

It is a well-known fact that the ground contains air in circulation; although we do not see it, it is

nevertheless moving and obeying the same laws which govern that above the earth. Calm although it seems, it, like that which fills our lungs, is never still. Upon the density of the soil depends the quantity of air circulating in the ground. Gravel, which is thought the best foundation for houses, contains most, sand and clay a less, proportion of air, which is affected by the substances which filter through them. Dr. Max Van Petterkoffer, Professor of Hygiene in the University of Munich, says: "A house standing on piles stands with its foot in water; by the removal of atmospheric pressure this water is drawn up by the walls till beyond the water-mark, and this ground water has a good deal to do with the house." By this simile he shows that a house is affected by the kind of earth upon which it stands. There is more or less water contained in all kinds of earth, and when frozen it is almost as hard to work as stone, yet allows some circulation of ground air. The same authority says: "Persons have been poisoned and killed by gas which had to travel twenty feet under the street, and then through the foundations, cellar vaults, and flooring of the ground-floor rooms. These accidents occur in winter, the frozen ground preventing the straight-upward escape of the gas. The houses act as

chimneys, and by their warmth invite the ground air, gas, or deadly vapor which is seeking to escape. Some of the most dangerous vapors can not be detected by our senses."

The absolute and imperative importance of having the foundations of our houses built upon clean earth, and protected with drain pipes of iron instead of porous clay, must impress itself upon the mind of every thoughtful person. If made of clay, they should be made air-tight by glazing.

When the joints of earthen pipes have become worn, or when the earth beneath them settles unevenly, as is frequently the case, the sewer gas finds its way into the tiniest crevice; the deadly poison is manufactured in silence and darkness, to worm its hydra-head into our sleeping-rooms, giving the fatal potion to the dearest and most helpless, who have the least power to resist it.

Those unable to remain out of doors hours each day are surest to become victims. Is it not high time to let tradition go, and educate ourselves in these vital subjects? God gave man reason for a purpose.

Houses in the country have no protection against this danger except such as hygiene teaches. Those whose duty it has been to instruct in these things

have not understood their responsibility. It is but recently the colleges have instituted chairs for teaching the laws of hygiene. If doctors were paid, as in China, for keeping the people well, the stimulus to teach hygiene would be greater. There, when people get sick, the doctor's pay stops.

In building houses, the drainage pipes connecting with the sewer should be fastened to the cellar wall, in plain sight, where the slightest leak could be instantly detected. Its connection with the sewer is, perhaps, its most important joint. A compartment should be built around it and made easily accessible, so that in case of needed repair from the frost, or the man-pursuing rat, the order of the house need not be disturbed. In building houses, four things are of paramount importance—First, the ground upon which they are built; second, their location in regard to sunlight in all the living-rooms; third, the best methods of ventilation; and, fourth, of drainage. Considering the disregard of all these conditions, so necessary to the health of the community, is it a wonder that infant mortality is so great; and that, almost yearly, epidemics of small-pox, scarlet and typhoid fevers desolate the land?

CHAPTER V.

THE BRAIN AND NERVOUS SYSTEM.

IN the preceding chapters we have seen how varied and complex are the motions necessary to

Fig. 6.—THE BRAIN EXPOSED.

The external surface of the cerebrum is seen in Fig. 6. *a*, *a*. The scalp turned down. *b*, *b*. Cut edges of the skull bones. 3. The dura mater suspended by a hook. 4. The left hemisphere.

maintain the life of the body. There is a mutual dependence of all portions of the machinery of organic life upon each other, and a necessity for some

medium of communication from one organ to another, by which they convey mutual information of their several conditions. Were there no such medium, the stomach could not notify the heart to work harder when digesting food. After using the muscles until their strength is nearly exhausted, how are they, without this medium, to inform the stomach that rest is required before they can spare the blood and nerve requisite for digestion? We often hear hungry people say they are too tired to eat. If the whole frame is weary from exertion, digestion can not go on vigorously, though the stomach be full of food.

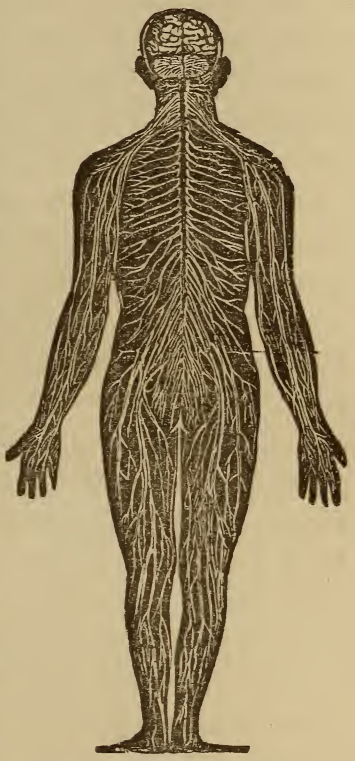


Fig. 7.—The Nervous System.

Without some line of inter-communication, the brain would not be informed in respect to hunger,

weariness, or the need of rest and sleep. The telegraphic communication is the nervous system. The brain is that portion of it contained in the cranium. In infancy it consists of a soft, pulpy mass, growing firmer as age advances. It is more abundantly supplied with blood-vessels than any other part of the system; this is probably one reason why overeating causes headaches. More blood is made, during the process of digestion, and carried through the vessels of the brain, than nature needs; the vessels become engorged, dizziness supervenes, and the health of the entire body suffers. The sick headaches, which are such a horror to many, could be avoided, in most cases, by knowing when to stop eating. Fevers are also induced this way.

Physiologists regard the brain as the organ of the mind. It is divided into two parts, the cerebrum and the cerebellum. The cerebrum, or large brain, is the seat of the faculties, thinking, memory, and will. To the small brain is ascribed the seat of the animal passions. The largest healthy brain on record is that of Cuvier, which weighed four pounds.

The brain imparts sensation, sight, hearing, smell, taste, feeling, etc.

The portion of the spinal cord contained within

the cranium is called the medulla oblongata. In cerebro-spinal meningitis it is this portion of the brain which suffers. There are twelve pairs of cranial nerves, which have their origin in the cranium, and pierce it at different orifices to supply the

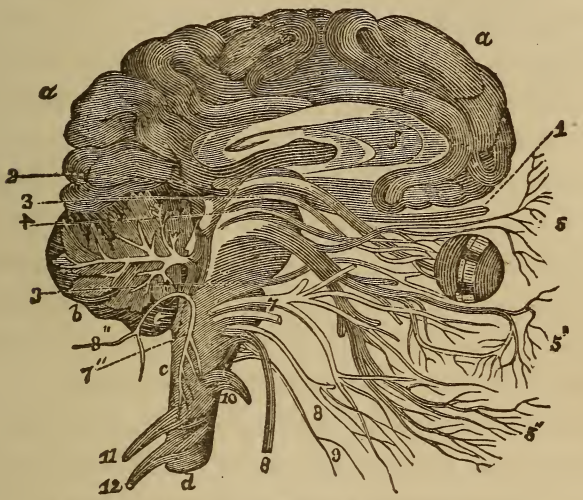


Fig. 8.—The Nerves Connected with the Brain.

Fig. 8 shows the origin of the cranial nerves. The numbers are placed against the corresponding pairs of nerves. 11 and 12 are spinal nerves. *a*, *a*, *a*. Cerebrum. *b*. Cerebellum. *c*. Medulla oblongata. *d*. Medulla spinalis. *f*. Corpus callosum.

eyes, nose, teeth, ears, tongue, and the muscles of the face and neck. The spinal cord contains the roots of all the spinal nerves. There are thirty-one pairs, each arising from two roots, one anterior and internal, which gives the movable power to the

muscles. These nerves can be cut with but little pain, but the motion of the part which they supply is lost.

The other is posterior and external. This supplies sensation to the entire body.

The nerves of sympathy consist of a series of knots or ganglia, forming a chain on each side of the spinal column. These ganglia give off branches in four directions: one above and one below, to communicate with other ganglia; and one with the sympathetic filaments. It is this nerve which carries sensation from one diseased organ to another. If the liver or stomach is disordered, the brain feels pain. The sympathetic nerves exert controlling influence over the involuntary functions of digestion, absorption, secretion, circulation, and nutrition. If the trunk of a nerve is diseased, pain is felt in the extremity. Even if one filament be out of order, it may cause pain in a remote part of the body.

Over-stimulation with tea, coffee, alcohol, or tobacco often induces disease of the nervous system. Nothing else is so hard to cure as diseased nerves, or causes more excruciating sufferings.

The nerves are the instruments of expression from the smile of infancy to the last agony of life.

They announce our sentiments: love, joy, hope, fear, and ecstasy; envy, hatred, grief, and every other emotion.

All their shades and diversities are imprinted in characters so clear that "those who run may read" our innermost thoughts. The will can but partially control, and keep these hidden. Thus conscious guilt shrinks from detection, innocence declares its confidence, and hope anticipates with bright expectations. All beauty and power of expression without their aid would be lost. (To preserve the beauty of which all women are fond, a knowledge of the brain and nervous system is absolutely necessary.)

If the brain is sound, there is less tendency to nervous and hereditary diseases. One of the reasons against the intermarriage of relatives is that if both parents are descended from tainted families, however far removed, their children will be impressed, and rendered liable to imbecility, or other forms of nervous disease. The Spanish nation has lapsed into all forms of nervous disease, and imbecility; and the noble talents of other countries are often lost from this cause.

Two persons of excitable and delicate nervous temperament should never marry; but nervous and

bilious, and *vice versa*. Parents who have overstimulated brains and nerves are likely to have scrofulous children, remarkable for large heads and precocity of understanding. Fond parents are often misled by the hope of genius, and excite the young brain still farther by constant cultivation and the unceasing stimulus of praise; such children are apt to outstrip their fellows, but all of a sudden, sometimes, and sometimes by slow approach, the brain gives out, becomes diseased, or loses tone, leaving the mental powers depressed for the remainder of life. One such case has recently come to my knowledge; a remarkably bright young man, seventeen years of age, went to college, graduated with honors, and subsequently at a law school he was noted for his attainments, and admitted to practice. From that time his mind seemed to decline; his bright thoughts left him, and at thirty years of age the only work he could execute satisfactorily to his friends was choring about the house, milking the cows, and feeding the chickens. He was the only son of wealthy parents, whose only hope of future representation on earth went out, by forcing their son's precocious brain. Such children should never look at books before ten or twelve years of age; no school except the kindergarten

allowed. They should live out of doors, and enjoy the sports of children to their fullest extent.

The different organs of the brain should be called into exercise regularly at stated periods, as there is a tendency to resume the same modes of action at stated times. Some diseases, as neuralgia, appear regularly at the same time each day.

A recent writer says that if the brain is built aright, the Divine Spirit will inhabit it; but build it wrong and the devil will employ it. We all know that a perfect brain can not grow on an unhealthy or an imperfectly developed body. This fact should be known by those who are, or expect to be, mothers, in order that the direction of their thoughts may be rightly guided.

CHAPTER VI.

INTEMPERANCE.

DR. B. W. RICHARDSON, Fellow of the Royal Society, London, after gathering the history of two thousand cases of consumption among drunkards, says that he found the cause, in a majority of instances, predisposition from hereditary taint; but after a rigid analysis, there remained two per cent. in whom consumption had been brought on by the use of alcoholic drink solely. These persons were neither old nor young, being under fifty and over twenty-eight. The average was forty-eight years, and were persons of whom it was never expected that their death would come from consumption. They were healthy men who could endure everything, eat well, sleep well, and drink well: men of excellent physique, active minds, and habits. They were not drinkers of strong drinks, who took little exercise, became pale, heavy, and of waxy countenance. In the ordinary sense they were not drunkards, perhaps never intoxicated, still they drank freely of every kind of alcoholic drink. Beer was water to them, wine was weak. The enemy they courted so long

was resisted, on account of their perfectly healthy organizations; as a rule they were thoughtless of their own health, and had abundant store of energy. Their faces were the best part of them, consequently the danger was not discovered until the lungs were nearly destroyed by the encroachments of disease.

Alcohol poisons by depriving the mucous membrane, as well as the other organs, of moisture. Let us see how a crude glass of whiskey will affect a person unused to it. When taken into the mouth, the salivary glands pour out their contents to such a degree that thirst is sure to follow in a short time. The gastric juices of the stomach also are profusely poured out, and with the alcohol soon pass out of it into the intestinal canal. Into this canal open tens of thousands of little vessels which absorb what is small enough to enter their microscopic mouths, and at the same time they are excited to pour out more of their own fluids than is their wont. We can easily account for the thirst which follows the repeated and long-continued habit of using any kind of drink, or food, for that matter, which over-stimulates the mucous membrane of the stomach and intestines. In consequence of this over-action of the vessels, blood rushes to them

and they become engorged, the membrane is thickened, and after continued repetitions of this action inflammations ensue which are mild at first, or subacute; but notwithstanding nature is constantly resisting, there is after a while acute inflammation constantly present.

Could we look at the coats of the stomach or lungs, we should see patches which readily bleed, and as the disease progresses, become like honeycomb. It is this irritated, burning, and constant craving of the stomach which gives rise to this ever-present restlessness. Instead of satisfying the appetite with food or drink, it is continually crying, Give, give. Something new must the good wife find to appease this unnatural appetite; condiments are resorted to, and all sorts of highly-seasoned food, which in the end only increases the trouble. If the patient would drink a pint of *hot* water three times daily, an hour before eating, it would relieve this burning and craving, and in the end effect a cure. Some of you may know how this patient wife overworks and stints herself and children in order to be able to minister to this, sooner or later, sick husband. We may understand how the dimples in her once beautiful face are elongated and are now lines of care or wrinkles. This husband may too late wish her earnest counsels had been heeded.

Oh, the sorrow I feel for the helpless and weak ones, who are dependent upon the strength and support of such husbands; and I feel sorrow, too, for the victim who will sooner or later be overwhelmed in grief, disaster, and ruin. It is asserted on the best authority that no form of consumption is as surely fatal as that produced by alcohol. In plain terms there is no remedy for Alcoholic Phthisis. It may be delayed in its course, but never cured; not infrequently, however, it runs on to a fatal termination more rapidly than is common to any other type of this disorder. It begins in the membranes and runs through their tissues. The blood-vessels, after being a long time congested, give way, and blood is exuded or extravasated into the lungs; the membranous structure around the heart grows thick, cartilaginous, and bony; the valves which are made of folds of membrane lose their suppleness, and valvular disease of the heart is established. Those who suffer from organic disease of the heart, learn the fact so insidiously, that the mischief is far advanced before it is suspected. They are for years conscious of failing power or strength from slight causes, such as over-exertion, broken rest, or too long abstinence from food. They feel what they call a sinking sensation, and know that wine or some other stimulant will at once relieve it. Thus

they seek relief, until at last this remedy fails, and the faithful heart will bear no more. "The governor of the blood stream is broken, and its vessels overflow and the work of destruction completed."

Alcohol injures the delicate nervous expanse of the eye, upon which the image of all objects we look at are impressed.

Lesions of the brain and spinal cord, and all the nervous matter become subject to organic deterioration. These unhealthy conditions of cerebral and spinal matter give rise to a series of derangements, which show themselves in the worst forms of nervous diseases, epilepsy, local or general paralysis, and insanity. All of these conditions send out flags of warning. A man finds his power of speech failing—this is a sign. His muscles are unstable; he makes movements without the use of his will, or when he is off guard. Ignorant of the danger heralded by these warnings he continues on his way until the agitated limbs become unsteady, perhaps paralyzed. The saddest part of this picture is, that the bodily suffering is never so great as the mental. These states of physical and mental suffering are sometimes continuous, sometimes intermittent. There may be intervals of perfect sanity and quiet; then, as if an electric storm swept over them, they madden themselves with spirit. They repent and

reform time after time until the will-power is weakened, and remorse and regret pursue them. Fear and despair settle upon all who know them intimately, for they are the most terrible members of community. The nearest and dearest friend is in danger of the murderous weapon. Their very footsteps carry dread to those most helpless and innocent. They are the dangerous members of community, whom legislators fear to touch, and fain would cure by scourge and chain.

Physiologists understand that prevention in these cases is the only cure.

It is humane of governments to build prisons for these unfortunates to occupy when all hope is fled! Would it not be a thousand times more so to make such laws as would prevent the *possibility* of this class of sufferers? Take away the possibility of getting alcohol.

Looking at this in a financial point of view, and even as if these immortal men were nothing more than brutes, it would save millions of much-needed treasure to the almost bankrupt nations of the earth.

By far the saddest part of this picture is, that the miseries and wrongs produced by alcohol are passed on to generations yet unborn. It ought to be the work of this age to purify, to beautify,

and lead on the next to a glorious millennium; to leave to our children their birth-right of pure blood and healthy brain. This would save the possibility of a drunkard's grave.

If it can be proven, as some advocates of strong drink claim, that it is capable of supporting life, it is certain that it kills in Russia ten thousand annually; in England fifty thousand die every year by this slow and terribly painful process. If as a medicine it sometimes seems to act beneficially, it is a terribly dangerous instrument even in the hands of the educated and wise, and a murderous one in the hands of the ignorant. It is the duty of physicians to educate the people in this vital subject, as well as to cure the evil of using intoxicating drinks among themselves.

It is sometimes remarked in regard to doctors who use strong drink, that if you can find them sober, they are more brilliant than their fellows who lead a sober life; this false opinion has sacrificed many lives, as educated observers in hundreds of instances can testify. These fitful meteoric flashes of knowledge can not compare with that acquired by the "eternal" vigilance of the *true* physician. Educated people prefer a sober pilot at the helm in a storm.

CHAPTER VII.

TOBACCO.

NEXT in importance to the evils of intemperance comes that of the use of tobacco.

Oliver Wendell Holmes says: "Each of us is the footing up of a long column of figures, that goes back to the first pair. No doubt we take color from many, and not only inherit their natural constitutional tendencies, but those acquired, whether of virtue or vice."

He says, also, "that if the identical vice does not appear, there is a morbid or diseased organization, and something akin to it appears in posterity."

A very learned physician, after long study of the effects of tobacco, says: "Enervation, hysteria, insanity, and dwarfish deformities, much of the consumption, many suffering lives, and early deaths among the children of those who use it, bear the strongest testimony to the feebleness and unsoundness of the constitution transmitted from father to child by the use of this pernicious drug."

Care, proper education, and good habits do much to avert the mental and physical ills, yet it is impossible to eradicate the inherited defect.

There is a great waste in nervous action, which must constantly be supplied to keep the brain and nerves healthy; and as the blood is the reservoir of food for all parts of the body, the importance of its being made of non-stimulating food, appears in strong relief.

Air impregnated with tobacco injures the lungs, but the brain more. The nerves first of any organ feel poison in the air. This, with improperly chosen food, starves the brain. Ideas become confused, the feelings morbid, the power of the will weakened, and the whole being deteriorated mentally, morally, and physically. Healthy nerves make us happy, diseased or disordered ones miserable. They do not get sick without long abuse or provocation. Tobacco more than almost anything else ruins the nervous system.

A lady told me not long since, her children were so feeble that she often had the gravest fears lest she could not raise them, and asked if I could tell her the cause.

In as thorough analysis as I could make of the constitutions of both parents, I could detect noth-

ing like disease; but the father and grandfather were both addicted to the use of tobacco and moderate drinking. The father smoked, or chewed constantly, and his sleeping-room was so saturated with the odor of tobacco that the wife was obliged to occupy another room; the little boy slept with his father. He continued to get weaker until removed to apartments supplied with pure fresh air; since that time he has improved in health and strength.

Men will not acknowledge that they are slaves to the use of tobacco; but they find if they attempt to break themselves of the habit, that they are in a bondage from which they find it almost impossible to free themselves. When men are once aroused to the evil effects entailed upon their offspring by habits which to them seem a luxury not to be dispensed with, it seems they must arouse to the necessity of exercising a power of will sufficient to break the strong chains of habit which bind them.

Above all should they feel the necessity of teaching their boys the danger of indulging their appetites, or of educating themselves to an unnatural fondness of the vile weed—of which it is said the evil one sowed the seed.

CHAPTER VIII.

THE STRUCTURE AND CARE OF THE SKIN.

As the health of the body depends largely upon the skin, we will consider its structure, its functions, and the care it should receive. Its sensitive layer is thin, soft, uneven, and of a pinkish hue. It is composed of blood-vessels and nerves. The former give it the various tints of red, and the latter sensation. The unevenness is caused by papillæ, each of which is supplied with a nerve, vein, and artery. The true skin contains not only arteries, veins, and nerves, but also lymphatics, oil glands and tubes, and perspiratory glands and tubes.

The sensitive nerves, with which the skin is supplied, proceed from the spinal cord, and as a proof that they are thoroughly distributed, the point of the finest needle can not be introduced into any part of it without causing pain. In the small papillæ the nerve forms a single loop, but in those of more exalted sensation it is bent several times upon itself before forming the loop. These nerves arise

from others which come through the layers of fat in many tortuous windings. The lymphatics are to remove the waste and worn-out tissues of the body; they are found in the skin in great numbers, and

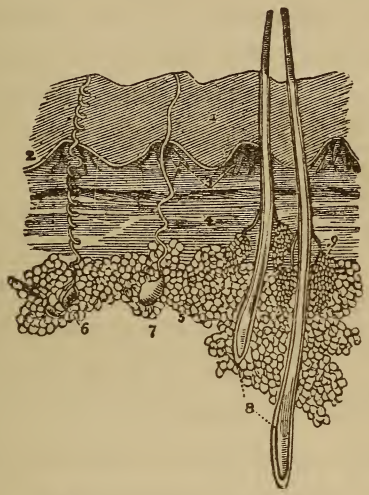


Fig. 9.—Anatomy of the Skin.

In Fig. 9 are seen—1. The epiderma. 2. Its deep layer, the rete mucosum. 3. Two of the quadrangular papillary clumps composed of minute conical papillæ, such as are seen in the palm of the hand or the sole of the foot. 4. Deep layer of the derma, the corium. 5. Adipose cells. 6. A sudoriparous gland with its spiral duct, as is seen in the palm of the hand and sole of the foot. 7. Another sudoriparous gland with a straighter duct, such as is seen in the scalp. 8. Two hairs from the scalp, enclosed in their follicles; their relative depth in the skin is preserved. 9. A pair of sebiparous glands, opening by short ducts into the follicles of the hair.

are too small to be seen with the naked eye, but if injected with quicksilver the entire body resembles a sheet of silver.

The oil glands are imbedded in the skin, and open at the end of each hair on the entire surface of the body, and supply it with nourishment. If rightly understood and cared for, these glands furnish a better pomatum for the hair than druggists can supply. It is the thickening of the oil in these glands which forms the little black spots on the skin sometimes called worms or grubs. When irritated by squeezing, these often inflame and cause a chronic roughness of the face.

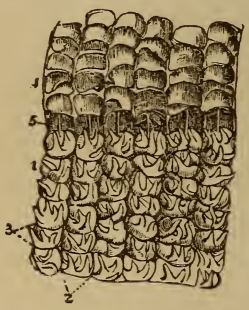


Fig. 10.—THE INTEGUMENT OF THE HAND.

Fig. 10 shows the anatomy of a portion of the skin taken from the palm of the hand 1. Papillary layer, marked by longitudinal furrows (2), which arrange the papillæ into ridges. 3. Transverse furrows, which divide the ridges into small quadrangular clumps. 4. The rete mucosum raised from the papillary layer and turned back. 5, 5. Perspiratory ducts drawn out straight by the separation of the rete mucosum from the papillary layer.

The entire body should be cleansed once a week by a thorough bath, and an occasional cool, not cold, sponge in the interval, followed by friction with the hand or towel until there is a thorough reaction.

The perspiratory apparatus, or the sweat tubes, is contained in the third layer, or true skin, and underlies the coloring matter. It consists of minute tubes which pass through the upper layers and ter-

minate in its deepest meshes; each tube forms a beautiful spiral coil, and when arriving at its destination coils upon itself in such a way as to form an oval-shaped ball called the perspiratory gland. The openings of these glands we call pores. Physiologists say that in an ordinary-sized body there are about seven million perspiratory tubes, each tube one-fourth of an inch long, making a drainage of nearly twenty-eight miles. From twenty to forty ounces of waste pass through these pores every twenty-four hours. If from cold, or neglect, these openings become obstructed, the absorbents carry this poison back into the system for other organs to eliminate, giving them more than their share of work, and an entire derangement of the system follows sooner or later. Many people do not understand that this constant renewal and waste is a never-failing law of the system. There is no stand-still point from the moment of birth till the day of death. To keep this renewal and waste equally balanced insures health. If the building process goes on faster than the waste, people become diseased, or grow too fat. If the removal of particles of matter be too rapid, the body becomes emaciated and the skin wrinkles. Nearly one-third of the blood in the whole body is contained in the skin.

When a cold sensation is felt the blood is driven inward, and congests other organs unless they can take on increased action by removing the watery part of the blood, thus reducing its quantity; but the waste must be eliminated through the air passages of the lungs or kidneys or bowels, and these become diseased by doing the work of the skin if long continued. Hence, checking the circulation through the skin is one of the greatest of evils; to keep it well protected and of a uniform temperature at all seasons of the year is most important. If the blood is driven from the skin it is most likely to engorge the lungs, as they are elastic, and can more readily than other organs allow it place. The digestive organs suffer from engorgement, as well as the muscles and brain, and if allowed to remain long, inflammation of these organs supervenes. Knowledge how to care for the skin would save thousands yearly from diarrhœa, catarrh, and consumption, and lessen to a great degree the number afflicted with rheumatism and neuralgia. It may seem impossible in this climate to adapt clothing to the sensitive condition of the skin, but graded flannels should be in readiness and changed from thick to thin as the weather changes, and thus the *suggestion* of a chill avoided.

If the body is exhausted by fatigue, sickness, loss of sleep, or from any cause, reaction can not readily take place; therefore the skin should not be exposed to cold, or be bathed in cold water. Damp air is often thought to be injurious to the lungs; it is not as much so as to the skin. The electric condition of the air has more to do with its uncomfortableness than its dampness. When the air is positively electric we feel refreshed and strengthened; when it is negative we are depressed and debilitated. When this last condition is present the skin should be rubbed with a dry towel. If the towel is wrung out of brine the night previous and dried, it is a good substitute for the salt sponge-bath, and can be used in traveling with greater ease. There need be no fear of breathing cold or damp air if the skin is warm. Young children should not be put into water while bathing, but a part of the body bathed and dried thoroughly, and then another, thus avoiding the danger of colds arising from wetting the entire surface at once.

When suffering from fevers, or almost any sickness, the body should be sponged in bed in a flannel sheet to protect the bedding and prevent a chill. For very sick persons a foot-bath can be given by first folding a flannel blanket under the

feet and legs and partially wringing a large bath-towel out of hot water and wrapping them in it; then roll the blanket around them, and leave them for half an hour with hot bottles or a water-bag to keep them warm. A bath should never be taken within two hours after a meal, or when fatigued by physical or mental exertion.

The mucous membrane is a continuation of the skin at all the orifices of the body, and when the skin is chilled the blood which belongs in it goes to this membrane; it becomes inflamed and thickened; catarrh and bowel troubles are often the immediate result, and congestions and serious lung troubles are apt to follow. Three grades of flannel should be worn in this climate. There is no such thing as hardening people by wearing an inadequate amount of clothing. There is less vital energy at night, and the skin then needs more clothing, instead of less, than in the morning. After the body is wearied with labor an extra garment is required while resting. The clothing should be loose, light, and porous. A shoe which fits easily is warmer than a tight one. Gloves are frequently worn too tight to allow the blood to circulate sufficiently to keep the hands warm. No rule can be given for clothing different people or children.

Those who have large brains, full chests, large lungs, and breathe an adequate amount of pure air, and eat the right kind of food, need less clothing than those of an opposite character, because more heat is generated in the system. Children and old people require more clothing than vigorous adults. If possible the clothing worn during the day should hang in the fresh air at night. Clean clothes are warmer than when soiled. Frequent changes are necessary lest the body reabsorb the impurities the skin has thrown off. All changes from thick to thin should be made in the morning. If accidentally wet, the clothing should be changed immediately, and the skin rubbed until dry and red. It is well to rub with alcohol if the person is feeble. If change is impossible, keep warm at all events.

If the brain is healthy and the skin kept in good condition, the sense of touch is acute; if compressed or diseased, it will be less so. It is not uncommon to see an unfortunate insane person endure exposure to heat and cold with seeming impunity. The quantity of blood in the skin determines its sensitiveness. This is proved by almost freezing a part and then performing operations upon it.

A sudden transition from heat to cold, and *vice versa*, often causes great pain. These changes

should be gradual. If the hands, feet, or ears should be frozen, safety demands that the person be kept in a cool room and the parts restored by moderate friction. The part will be destroyed by immersing in hot water, or if held by the fire. Old people should bathe the skin in olive-oil once a week to protect it from wrinkles. Finally the skin should be kept clean and warm, and covered by loose, porous, and light clothing to insure the health of the body.

CHAPTER IX.

BREAD AND BUTTER.

FROM the first moment of existence to the latest day of life change is constantly going on in our bodies. This is God's law, and in view of it we should not be unhappy. It seems, at first thought, revolting to dwell upon the decay of matter in our bodies, but we must remember that those of us who have attained middle life have left behind us several bodies, about which we do not mourn, but rather rejoice, as those we now possess are better fitted for our present use. It would ill become men and women to appear in children's bodies. I imagine when we become clothed in spiritual bodies, we shall not desire to exchange them for the ones we now occupy, and which are, as I before said, changing constantly.

The hands we use to-day, and the feet we walk upon, are not those of yesterday in all respects. New atoms of matter are being deposited and old and useless ones constantly removed. The mate-

rial necessary to sustain the growth of the body, and to repair its waste which is unceasing, is the food we eat, our "bread and butter." Animal and vegetable food contains most of the elements of the different tissues of the body, yet it must undergo essential change before it can become a part of it.

Fig. 11.

In Fig. 11 all of the salivary glands are represented in their natural situation. 1. The parotid gland, extending from the zygomatic arch of the cheek-bone to the angle of the jaw below. 2. Its duct, termed the duct of Steno. 3. The sub-maxillary gland. 4. Its duct. 5. Sub-lingual gland.

In digesting our food there is nothing more important than the saliva, and that we may have a clear idea of its office, I will briefly describe the organs of digestion.

On each side of the mouth, and beneath the

tongue, are six glands which manufacture this fluid. When food which is palatable is taken, it may be

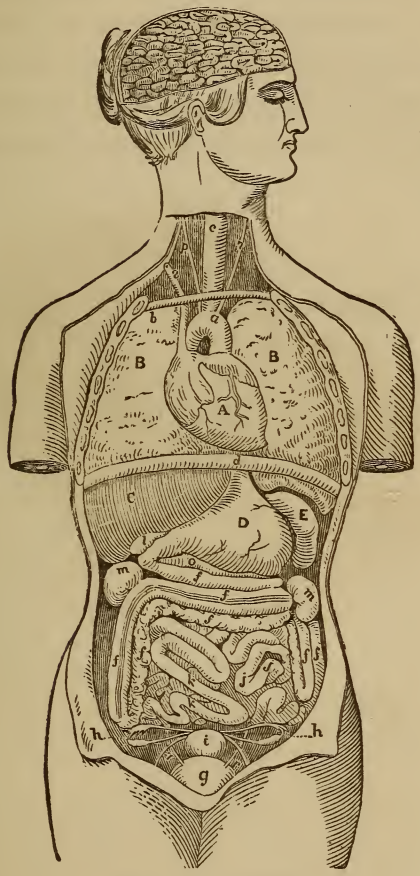


Fig. 12.—Vital System.

A. Heart. B, B. Lungs. C. Liver. D. Stomach. E. Spleen. *m*, *m*. Kidneys. *g*. Bladder. *d*. is the diaphragm which forms the partition between the thorax and abdomen. Under the latter is the cardiac orifice of the stomach, and at the right extremity, or pit of the stomach, is the pyloric orifice.

seen, in streams sometimes, pouring into the mouth. Food should never be swallowed until thoroughly masticated, and saturated with it, neither should it be weakened by its admixture with other fluids. When food is swallowed, it does not drop directly into the stomach, but is slowly pushed forward by

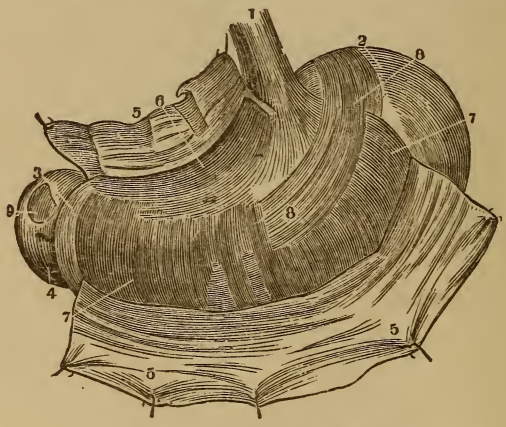


Fig. 13.—Front View of the Stomach.

1. Anterior face of the œsophagus. 2. The cul-de-sac, or greater extremity. 3. The lesser or pyloric extremity. 4. The duodenum. 5. A portion of the peritoneal coat, turned back. 6. A portion of the longitudinal fibers of the muscular coat. 7. The circular fibers of the muscular coat. 8. Oblique muscular fibers. 9. Portion of the muscular coat of the duodenum, shown by removing the peritoneal coat.

the contraction of a muscle which winds around the esophagus or meat pipe. The stomach is in the left side of the abdomen, below, but in contact with, the diaphragm. It has two openings, one called cardiac, because near the heart, and the other

pyloric : this one connects it with the upper end of the small intestines.

The interior or mucous coat of the stomach is arranged in folds when it is empty, which disappear when it is full. It is provided with multitudes of glands which secrete gastric fluid. When seen through a magnifying-glass it looks like honey-comb. Are not the workings of nature in the dark and silent chambers of the body both wonderful and beautiful? If digestion, or grinding of the food, and carrying it to its place of rebuilding in the body, was accompanied by the noise the miller makes in his preparations, we should have less quiet slumber than we do now.

"Man has yet to improve many generations before he can operate with the beauty and precision he everywhere sees around him. If, however, he would more closely watch nature, and study her laws more diligently, his improvement in every variety of handiwork would be greatly accelerated."

There is no organ in the body which changes place like the stomach ; that is, when the body is in its natural shape and state.

If the ribs are tied down with corsets, and the trunk is imprisoned in whalebone, it would be unreasonable to expect it to move very far, and it

must get along the best way it can, and do its work as best it may under the circumstances. It would, if allowed, at every inspiration be pushed down-

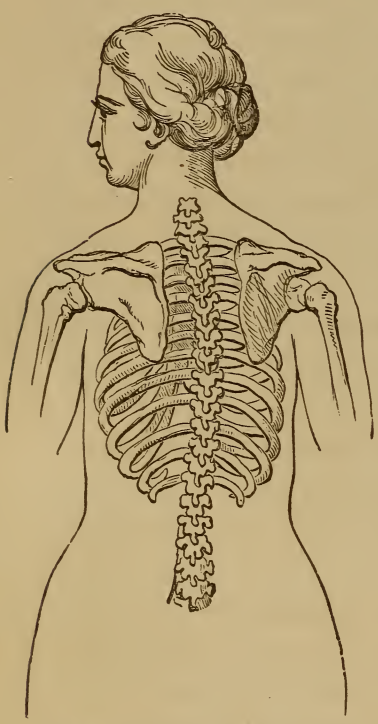


Fig. 14.—Posterior View of Thorax in a Natural State.

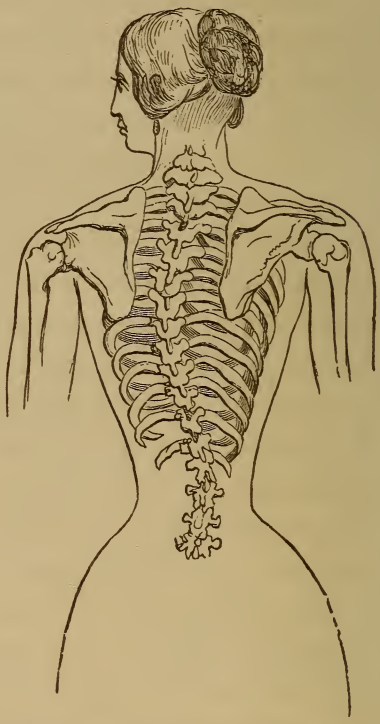


Fig. 15.—Posterior View of Thorax Compressed and Deformed by Stays.

ward by the diaphragm, and elevated by the abdominal muscles during expiration. Fashionable women are apt to have large abdomens. If nature

is thwarted in her work in one direction she seeks another, and tries by what in other directions would seem heroic effort, to make up for what is lost by interfering. So if women will have small waists they generally have large stomachs, and they have no right to grumble at the disgusting deformity. The stomach must go somewhere, if not under, and protected by the ribs as God designed. It must hang, as it often does, like a bag. In this position the circulation is imperfect, digestion is impaired, and an abnormal growth often is seen. Sometimes it is so much enlarged as to lie upon the legs when sitting. There is only one way to cure this: enlarge the waist to the fullest possible extent, and rub the bowels upward and the body generally, an hour or more daily.

It is not in the same position when empty as when filled. The spleen lies behind it, the left lobe of the liver in front, and the heart directly above it. In inflammation of the stomach the pain is often referred to the heart, and accompanied by palpitation. Persons often imagine they have heart disease from this cause.

The lacteals are minute vessels which commence in the mucous coat of the small intestines. Their office is to gather up the particles of nutrition

which the food contains, and carry them into the general circulation. These lacteal vessels are very numerous, almost ten thousand to the square inch. Their extreme fineness renders it necessary that the food should be thoroughly dissolved, and diluted with the gastric fluids before it can be received into the circulation. From the intestines these vessels pass between the membranes of the mesentary to small glands which they enter; they then transmit a less number of larger branches to a second range of glands, and so on, and after passing several successive ranges of these gland-

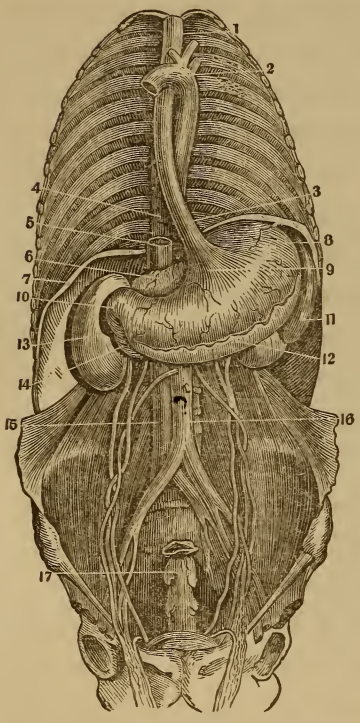


Fig. 16.—Stomach and Great Blood-vessels.

1. Upper portion of the œsophagus. 2. Arch of the aorta. 3. Lower portion of the œsophagus. 4. Vertebral column. 5. Vena cava ascendens. 6. Pancreas. 7. The cut edge of the diaphragm. 8. Great cul-de-sac of the stomach. 9. Cardiac orifice of the stomach. 10. Pyloric orifice of the stomach. 11. Spleen. 12. The peritoneal coat of the stomach partially turned off. 13. Right kidney. 14. Lower curvature of the duodenum. 15. Ascending vena cava. 16. Abdominal aorta. 17. A section of the lower bowel (rectum).

ular bodies, greatly diminished in number, but increased in size, they proceed to and pour their contents into a large duct or sac in the lower part of the abdomen. This white blood then rises to the left side of the neck, and makes a bend forward and downward and empties into the left subclavian vein, on its way to the heart. (If the food is too rich, the blood is filled with impurities, and pimples on the face, a rough skin, or some other trouble re-

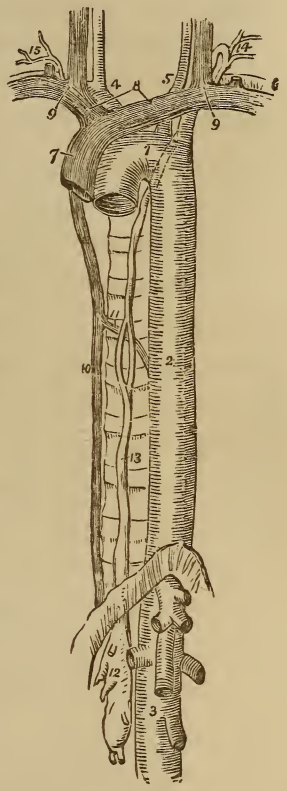


Fig. 17.—Lymphatic Center.

Fig. 17 exhibits the course and termination of the thoracic duct. 1. Arch of the aorta. 2. Thoracic aorta. 3. Abdominal aorta and its branches. 4. Arteria innominata, dividing into right carotid and right subclavian. 5. Left carotid. 6. Left subclavian. 7. Superior cava, formed by the union of 8, the venæ innominatæ, and then by the junction (9) of the internal jugular and subclavian at each side. 10. Greater azygos vein. 11. Termination of the lesser azygos in the greater. 12. Receptaculum chyli; several lymphatic trunks are seen opening into it. 13. Thoracic duct, divided opposite the middle of the dorsal vertebræ into two branches, which soon reunite; the course of the duct behind the arch of the aorta and left subclavian artery is shown by a dotted line. 14. The duct making its turn at the root of the neck, and receiving several lymphatic trunks before terminating in the venous circulation. 15. Termination of the trunk of the right lymphatic duct.

veals it.) In the subclavian vein this white blood is mixed with the old worn-out blue blood, and sent to the lungs to be purified. It there parts with the poison carbonic acid, and takes in its place oxygen; it is then returned to the heart to be sent to every portion of the body. Blood is the only vehicle which carries life and takes away the poison. The whole quantity of blood is usually about one-fifth of the entire weight of the body. It all passes through the heart every five minutes, or less.

The net-work of vessels, injected after death with a substance which hardens them in order to make dissection possible, makes a beautiful specimen in Mott's Anatomical Museum, in New York. Their extreme fineness is marvelous, and we know that we can not penetrate the skin with the finest needle without wounding some of them.

Everybody has a relish for good, pure blood; it tells wherever it exists, and is a better heritage than gold. It is made entirely of the food we eat. To know how to make it in our children, and thereby to improve not only their bodies, but their mental and moral natures, we must learn the art of cooking rightly the kinds of food best adapted to supply the waste of their bodies.

The liver is a large gland appended to the ali-

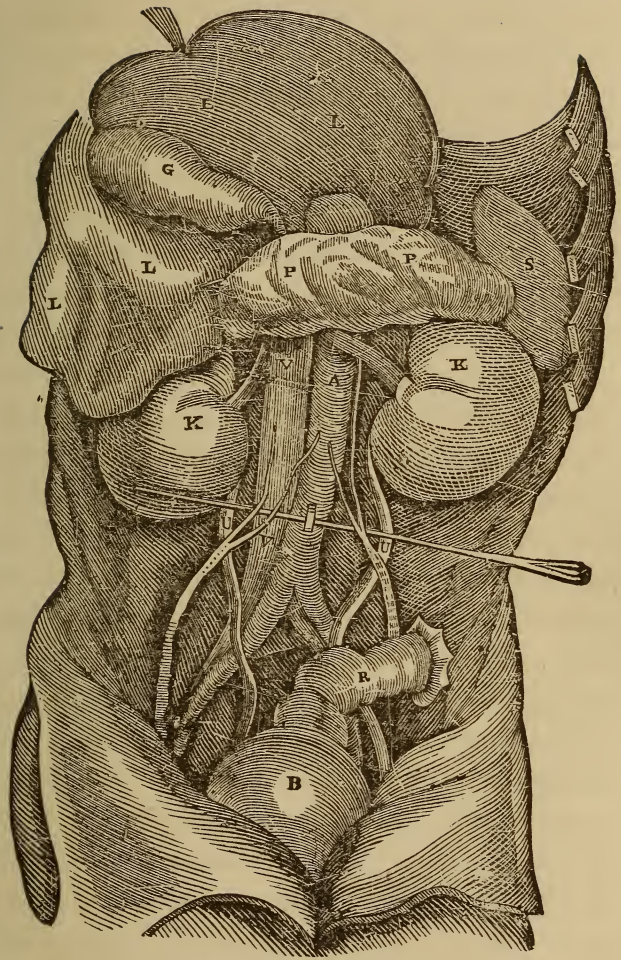


Fig. 18.—Abdominal Cavity.

In Fig. 18 the intestines are mostly removed. L, L. The liver, turned up to show its under surface. G. Gall-bladder. P. Pancreas. K, K. Kidneys. S. Spleen. A. Descendiag aorta. V, V, Ascending vena cava. R. Rectum. B. Bladder.

mentary canal, and is the largest organ in the body. It weighs about four pounds, and performs the double office of separating impurities from the old blood, and of secreting bile. On the under surface of the liver is a membranous sac, called the gall-cyst, which is a reservoir for bile. It sometimes becomes closed by calcareous deposits and large gall-stones, which either fill it and check the flow of bile (which must of course prove fatal), or pass into the alimentary canal. The suffering at first is most intense, then suddenly disappears. This disease is known by its sudden approach and sudden departure from other similar affections, or other pains which simulate it. This gall-cyst is often packed solid with stones as large as peas, and rough like peppercorns. This roughness makes them cling to each other, and sometimes, as before stated, entirely close the canal. A wine-glass of olive-oil used daily cures many cases of gall-stones. It should be taken before breakfast.

When food comes in contact with the stomach it should be empty. It immediately pours out from its cells a powerful solvent called gastric juice. The presence of the food in the stomach also causes its muscular fibers to contract, and as one set goes around and the other straight across,

their action is antagonistic, and the food is rolled over and over from one end of the stomach to the other, until each portion is saturated with gastric juice. This softens it into a pulpy mass of creamy consistence. It is not all changed at once, but as fast as it is changed it passes through the pyloric orifice into the duodenum. The amount of gastric juice secreted does not depend upon the quantity of food taken, but upon the requirements of the system; for every ounce of food the body requires there is secreted four ounces of digestive fluid, which prepares it for, and accompanies it into, the circulation. For one new recruit, nature sends out four old soldiers to prepare the new one for its mission and cycles of renewal. It is of the greatest importance that this be remembered, and that we not only learn what is best for the needs of the body, but *how much is necessary* to keep the supply equal to the waste. Only a definite portion can be dissolved; if more is taken than the body requires it is rolled over and over again, the little door of the pyloric orifice refusing to let it pass until tired, and seemingly hopeless, it at last, sometimes after hours of watchfulness, opens, and seems to say, "If you will, you may destroy yourself." Dyspepsia, for which this nation is famous, would

shortly disappear if people could be induced to eat the right kind and only the proper amount of food, taking little or no drink with it, depending entirely upon the digestive fluids, the saliva, gastric juice, and bile. After the gastric juice is thoroughly incorporated with the food it is called chyme; this is conveyed into the duodenum, and not only excites it to action, but also the liver and pancreas. The duodenum secretes mucous, the liver bile, and the pancreas pancreatic juice. By the action of these fluids the chyme is converted into chyle, and residuum. The bile has nothing to do with the food in the stomach. In the healthy state there is no bile in the stomach; if bile is ejected in vomiting, it shows that not only the action of the stomach is inverted, but also that of the second stomach or duodenum. A knowledge of this fact would save a vast number every year from swallowing emetics and cathartics to rid the stomach of bile. It can in this way be ejected from the most healthy stomach, and the character of the drug taken to produce this effect makes the kind and the color of the fluids ejected, instead of the disease, as many suppose. The contents of the stomach of a healthy man, and of a sick or feeble one, are not distinguishable by the finest chemical test. This shows

how much better able a healthy man is to bear medicines than the sick, to whom, in all cases, they are given instead.

Physicians nowadays do not tell their patients, as of old, that the stomach is foul and needs cleansing ; and if they give remedies for biliousness, usually give them to stimulate the liver. This sometimes helps to complete the process of digestion in the bowels, so that the bile be not absorbed into the muscles, which is revealed by the yellow skin and eyeballs. It would be difficult for the medicine to get at it after its absorption, and if there is more than nature can dispose of, it would be an excellent plan to stop eating a day or two, and let this apparatus rest ; in many cases, this is sufficient to set all things right again.

The chyle and residual matter is passed over the mucous surface of the small intestines by the peristaltic action of their muscular coat. This peristaltic or vermicular action is caused by the ribbon-like muscle before mentioned, which extends the entire length of the intestinal canal, and if its power and tone are diminished by medicines, want of exercise, or an improper mode of dressing, too much bile is absorbed with the food, and the complexion suffers either in color or smoothness, perhaps both. Loose

clothing should be worn, and vigorous exercise taken for one or two hours after meals; the action of the stomach and intestines is then stimulated to do their work in the time intended. A constipated condition of the bowels is almost sure to follow slow digestion. The stool which is filled with poison and the old worn-out tissues of the body, is, in many instances, deprived of these poisons by their being reabsorbed into the body. A young lady once appealed to me to cure her freckles; after becoming acquainted with her habits, I had no difficulty in doing so, or, rather, in teaching her how to cure them herself, as they were simply a deposit of the impurities which should have been thrown out of the system daily through the bowels. She, unfortunately, belonged to that class of young ladies who think it vulgar to have a movement of the bowels, and she often went an entire week without any inclination, the consequence of long disobedience to nature's demands; she then resorted to cathartics, and had the week's work done up in a hurry. Such habits are sure to bring disaster.

The stool, in a natural state, is in a partially fluid or soft condition; but if it remain twenty-four hours longer than it should, it becomes hard, and almost manufactured into bullets. This is not a very pleas-

ant thing to talk about, but a much more unpleasant one in effect, not to be understood. The ills which arise from habitual constipation are too numerous to mention here, but will be referred to in other chapters.

Fig. 19 reveals the importance of sufficient room to insure the peristaltic motion of the bowels when the stool is passing. If they are crowded, this worm-like movement is impossible, and constipation is the result.

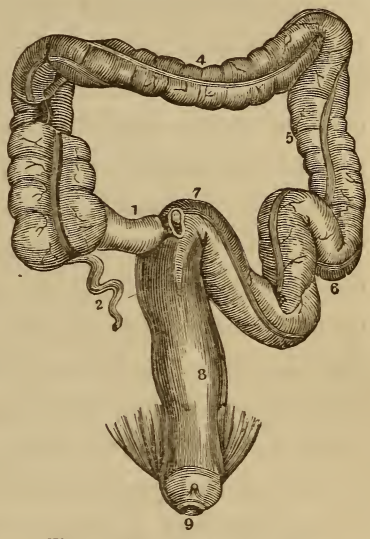


Fig. 19.—The Large Intestines.

1. The end of the ileum. 2. Appendicula vermiformis. 3. The cœcum, or caput coli. 4. The transverse colon. 5. The descending colon. 6. The sigmoid flexure. 7. Commencement of rectum. 8. The rectum. 9. The anus. The levator-ani muscle is shown on each side.

As the food moves along over this mucous coat it comes in contact with the mouths of the lacteals, which, by it, are stimulated to drink up their share of the nutriment. Food called nutrient may, or may not, be so, to different temperaments. The old saying, what is food for one is

poison for another, is absolutely true, and great care is required in selecting the right kind of food, as well as exercise, for the different constitutions in the same family. Their stomachs are as unlike as their faces, and many times more so, and one person will thrive on food upon which another will starve.

Healthy digestion requires the strict observance of four rules: first, the quantity of food taken; second, its quality; third, the manner in which it is taken; and fourth, the condition of the system when it is taken. The quantity of food necessary for the health of the body varies; age, occupation, temperament, temperature, habits, amount of clothing, health and disease, are among the circumstances which produce this variation. Children and youth require the kind of food best adapted to the growth of the different parts of the body. The more rapid the growth, the greater the demand for food, the keener the appetite, and the more vigorous the digestion. After we attain full growth, if the same amount of food be taken, with no increase of labor, the digestive apparatus will become diseased. This is one reason why grown people oftener have liver complaint than children; more food than the system requires is taken, and more bile than is needed is manufactured, consequently the organs enlarge

and lose their activity, and the vigor of the whole body is diminished. Should the body become emaciated by disease or fasting, the increased appetite may be indulged judiciously until the usual size is regained. The weight of the body is changing constantly; the greater the action the greater the change, and food is required according to the activity. A laboring man who perspires freely, needs a greater amount of food than the student, because the particles of matter are more rapidly moved through the vessels of the skin, lungs, kidney, liver, etc. Their places must be filled with new atoms, and carried to all parts of the body. There is a demand for this supply of food, and we call it hunger, and refer the feeling to the stomach. It is, in reality, no more in the stomach than in the brain or feet, but a want of every part of the body. The union of oxygen with carbon and hydrogen, which the food and drink contain, generates heat. This is greatest in winter usually, because of greater vigor and activity in the system, and we consequently require more food than in warm weather. Persons who have insufficient food require more clothing than well-fed people. I can understand why the poor require more clothing, and account for their hollow eyes and pinched cheeks, and when

administering to their needs we should not forget to teach them the laws which govern their health. There would be much less poverty if the poor and lower classes knew how to keep their health. The idea that the poor are healthier than the rich is not complimentary to the rich, or to their intelligence. Good food, pure air, the right kind and amount of clothing, plenty of outdoor exercise, favor the longest and healthiest life. As the warm season approaches, before the removal of thick flannels, if we lessen the quantity of our food the strength will remain unimpaired, and we shall not feel the debility which is usual in spring-time. Food taken into a weak stomach does not strengthen or invigorate. It is like a weak person undertaking to carry a heavy load, and only prolongs the weakness. How often the fond mother injures the sick child by giving it food which can not be digested and the system can not dispose of. Physicians find more overfed children among the wealthy than underfed among the poor. God gave us reason to guide our affections.

An overdistended stomach often induces a state of faintness. A lady who was in the habit of eating at all hours of the day, was very subject to fainting fits, and during one of them sent for me. She

had partaken of her regular meals, and of milk punch and crackers every hour during the day, and yet was so faint as to feel alarm. All she needed or received was a regulated diet, and by adhering to it had no return of her trouble. The reason of this languor and depression of the strength is want of more blood power to do the work; and more nerve which can only come with intervals of absolute rest. The doctors who have in different parts of the country established what are called "Fast-cures," or cures brought about by long abstinence from food, may prove a blessing, where there is not sufficient self-control to follow the educated reason. When people are troubled with sour stomach, or what is termed heart-burn, it is probable that too much food has been taken, and instead of digesting it is simply fermenting, and eructations of gas follow, which is, to say the least, uncomfortable.

When persons intend making an extraordinary effort, either mental or physical, they should take less, instead of more food, for one meal at least. Always stop eating before the appetite is satisfied. Taste and appetite are often confounded, and we eat while food relishes; this, instead of supplying a need of the system, simply gratifies the palate.

I shall now speak of different kinds of food, and

show the importance of having it simple and thoroughly cooked, and not spoiled with seasoning.

Corned beef should be put into boiling water and boiled five hours or more, until the bone slips out easily, and it becomes very tender. It takes thirty minutes longer to digest corned beef than fresh roasted or broiled, consequently it should not be used so frequently. Meat should never be fried and should never be put into water to wash it. If there is need (and there is not if you have a clean butcher), a wet cloth should be used, and in no case should it be laid in water for a moment. Corned beef should be dropped into boiling water. If put into cold the juices are extracted before it is cooked. Boiling water makes a covering by quickly cooking the outside fibers so that the juices are retained in the meat. Southdown mutton should be cooked in the same way. Chickens, turkeys, and wild game, such as partridges, quail, etc., are very healthful food. Soups not too highly seasoned are for most persons healthful. Fruit and vegetables should constitute more of our daily food. Cabbage should be eaten raw, as it digests in two hours, while cooked it requires four and a half. Beans contain more nutriment than any fruit or vegetable. Nothing is so important as the bread we eat, and tables

should never be spread in an enlightened community without good wheat-meal bread upon them. In all white flour the ingredient which makes bone is, to a great extent, removed.

The bran in graham flour does not so easily digest on account of its coarseness, and its admixture with its silicious bark. In fine flour from the entire wheat, the gluten is preserved; this makes bone and muscle, cures constipation, and is much richer in flavor than the ordinary white flour. It makes better cake and pies (if people will eat them) than the white. This flour is made in different parts of the country, and will, we trust, soon take the place of that now generally in use. This bread will furnish material for the teeth, and when in general use, the dentists may not have as lucrative employment as at the present time. Great care should be taken to preserve the teeth, as they play an important part in digestion, as well as in one's appearance. A plain woman with beautiful teeth, well taken care of, is more attractive than a handsome face with bad teeth.

Rye and Indian meal steamed two or three hours before baking, makes delicious bread. Melted butter does not digest as easily as cold, and persons with weak stomachs should not use it.

Hot biscuit, rolls, pancakes, and muffins are not as healthful as bread, and should not be eaten. Tapioca, sago, rice, etc., should be eaten for desert instead of so much rich pastry made of lard.

Veal is among the forbidden articles of diet for persons with weak digestive organs. Geese and ducks are not healthy. Cakes, all condiments, mince pies, and confections, are too concentrated, and should not be eaten. The most easily digested food is not always best; the stomach is like the muscles, and exercise within proper limits strengthens it.

A very important idea is to select food adapted to the distensible character of the stomach and intestines. They are like rubber, and contract on themselves. The stomach is full whether we swallow a gill or a pint, and the same is true of the intestines. If the food is too condensed, the bulk will not be sufficient to distend them in order to produce the motion necessary to dissolve the food, or for the lacteals to absorb it. If the food does not contain sufficient nutritious matter, the digestive apparatus will soon become weakened because of inaction. For this reason food should be carefully selected to suit the wants of each temperament. If at any season of the year there is a tendency to

summer complaint, the articles that contain the least waste should be selected; but if there is inactivity, that which contains the greatest amount of waste should be used, in order to stimulate the muscular contraction of the bowels.

Vegetable food is better adapted for children than meat, which is too stimulating. In traveling, changes in diet should be made gradually.

If one meal follows another too quickly, before the stomach has had time to rest, the gastric cells will not be well filled with juice, and the contraction of the muscular fibers will be imperfect. Of all the organs in the body none require such absolute rest as the stomach. The feebler the person, the more strenuously should this rule be observed.

If the food is not mixed with saliva, but swallowed with tea or coffee, to wash it down, digestion is retarded; and if food is not eaten slowly, more food gets into the stomach than is sufficient for nutrition, and indigestion follows. Rapid eating and imperfect mastication are the prevailing cause of indigestion nowadays. No drink should be allowed at meals; then the gastric juice acts directly on the food and dissolves it much sooner and easier than if weakened by drinks. Water should be freely taken an hour or two before meals, when the

stomach is empty, and long enough before to have it absorbed; then when the food is swallowed, the gastric cells are filled with a sufficient quantity of juice to digest it easily.

Food should never be taken immediately after severe exertion of body or mind; at such times there is too much blood in some parts of the body, and too little in others. Rest restores the equilibrium. From thirty to sixty minutes' rest should precede and follow meals, to give the stomach all the power needed.

More work may be accomplished than is often done by people who rush to their meals, and eat in a hurry, and again rush to their work, as if their lives depended on how little enjoyment they could possibly get along with. An English gentleman made an experiment on two dogs; he fed them both, and shut one up in a dark room, and sent the other for game. After an hour he killed both, and found the food in the one which had been shut up was nearly digested; while that in the one which had used his muscles was unchanged. The Spanish fashion of lounging, or having a siesta after dinner, is far preferable to that of our Anglo-Saxon race who have become famous for rushing things. In persons of sound health this law may seem to pass

with impunity; but nature, though lenient, will sooner or later assert her claims.

Observation shows that disease, habits, the state of the mind, and other circumstances, exert an influence on the appetite. We all know if we are ever so hungry, and the postman brings us a letter containing bad news, our appetite is gone. The reason is, the brain withholds its stimulus. The less care and business we bring to our meals, and the more cheerfulness and wit, the easier will be digestion. Three hours should elapse after eating before going to bed. You who have studied the physiology of the schools remember the story of the farmer who ate one-half a mince-pie before going to bed; he became annoyed with unpleasant dreams; among others he fancied he saw his dead father. He became alarmed and sent for his doctor, who after patiently hearing the case, advised him to eat a whole pie, and he might then possibly see his grandfather.

Nothing favors digestion more than a proper care of the skin. Horsemen understand that to keep a horse in the best health his skin must receive great care. If it were a law that every working person should take a sponge bath daily, it would be a good thing not only for the individual, but for

those in company with him. If the twenty-eight miles of drainage through the skin is not kept free by frequent baths, working people will have rheumatism, and sedentary people dyspepsia. Sitting upright favors digestion.

Good oatmeal and wheat-meal should take the place of all hot cakes. This, with raw fruit or a baked apple, baked or steamed potatoes, is a sufficient variety for any breakfast or supper. One kind of meat selected from those allowed, one of vegetables, besides potatoes, bread, and butter, is all the variety any one should provide for dinner. Cracked wheat and wheat-meal contain the phosphates, and a selection from the various wheat and oatmeal preparations should constitute the suppers.

If ladies would spend more time in learning these rules, the world, and especially the little world in their own families, would make greater progress heavenward than many now are doing. And in this connection I wish to call attention to a new work, published by Fowler & Wells, called "Health in the Household," by Susanna W. Dodds, M.D., the most comprehensive work on the healthful preparation of food ever published. (Price, $2.00.)

If I have my way, I intend to live to see an en-

tire change in cooking as done by Americans. The French can make a better meal for twenty-five cents than we can for a dollar. They understand that good cooking is the mother of the arts and sciences. Unless food is appetizing, the glands will not pour out sufficient juices to digest it. The quality of brain and thought depend upon proper food and good digestion; sound minds require sound bodies. Without perfect health our usefulness is impaired or suspended; and even if we have ever so much wealth, we are unhappy, and often make others so. It is our privilege, to the latest day of life, to be full of spontaneous sympathies and enthusiasm. We need never grow so old that we can not feel a thrill of kindred delight in observing the pleasures of the young, and in watching their glad and eager faces.

The bringing about of this state of health and its attendant blessings, is emphatically the work of woman.

Intemperance in eating is sometimes as great a sin as in drinking. We do not see its results as quickly, yet the constitution is slowly and surely being undermined by it. The ignorance and carelessness of women are at the bottom of this. We all like to see our tables look a little nicer than our

neighbors'. By constantly stimulating an unnatural appetite for dainties, we lay the foundation of intemperance in other directions. We do not need to go to the other extreme and starve, but we should all eat to live, and not live to eat. Eat regularly, and never more than three times daily. Not a particle should be eaten between meals. We should stop before eating as long as it relishes. We shall then be repaid in our own comfort, and have the satisfaction of helping to make a generation of healthy men and women, and of curing a nation of dyspeptics and drunkards.

CHAPTER X.

TO WORKING-WOMEN AND SERVING-GIRLS.

To the large army of women and girls, whose only thought is how to earn their bread and clothing, and to supply it to those dependent upon them, this chapter is devoted. All along the lines of this army are those who would shine as the stars, if their deeds of heroism and self-sacrifice, of faithfulness and devotion, could be known. How many wives of sick, drunken, or unkind husbands toil on year after year, "hoping against hope," with no help or sympathy, forgetting self, without sufficient food and clothing, and at last sink from exhaustion, leaving families of worse than fatherless children. Instances of such cases come to the knowledge of physicians after all opportunity is gone for restoring health or helping them. The knowledge which they should have had, would have prevented much suffering, and saved their children a mother's love and care.

There are also, besides those who have been

workers for generations, many who have known prosperous days. Hard times have deprived them of all means of support. They are without knowledge of anything which can avail them in lieu of money. The brothels or the stage offer them comparative ease and freedom from want; the number who are going down the broad road in these directions is fearful to contemplate. Instead of learning a trade, or how to cook scientifically, or to nurse the sick, they prefer these gilded avenues, not knowing that the end is near, and untold agonies the reward sure to overwhelm them.

To-day a beautiful girl called to say there was no place in the wide world for her but a choice between an uncongenial marriage and the stage; she said her voice would not admit of anything but mediocrity; that she must associate with all sorts, and be "hail fellow well met" with the lowest. To such as she we come with words of cheer and encouragement. There is honorable work for all, so that each can choose a calling which is not distasteful. It is honorable to work. Nothing is more pitiable than to see the deterioration and ruin which are being wrought with the rich and the idle.

It is certain that all whose lives have been of any

use to the world, and whose memory lives, have early and late, in season and out, worked with both head and hands. It is just as honorable to make a shirt as to paint a picture; to cook a meal as to play an overture on the piano; to wash and iron as to paint china, and do elaborate embroidery; to sweep and dust, and make home desirable and attractive as to attend parties and gossip about each other.

The ignorance of most workers in regard to keeping their health is the greatest hindrance to success. Those who write or sew should change their positions frequently, so that one set of muscles need not be too long on the strain. High tables should be used for writing and for basting work, so that the standing position may alternate with that of sitting. By this means more work can be accomplished in a day with less fatigue or injury to the health than by sitting at one's work from morning till night. The bowels and bladder should receive prompt attention and the slightest call of nature heeded. Those who neglect the bowels soon become constipated, and the kidneys take on increased action and soon become diseased. The bladder should be relieved three times a day at least, and oftener if there be any inclination. If the contents of the bladder be

retained, reabsorption takes place and the health must suffer. The womb is often misplaced by a distended rectum or bladder. It is pushed forward by a distended rectum and sometimes makes a sharp bend (flexion), causing pressure upon the bladder and too frequent urination. If it remains long in this position it causes great pain at the monthly period and is slow to cure. Such patients should pay strict attention to the rules for regulating the bowels, and, when lying upon the back, make pressure over the pubic bone (the lower part of the abdomen) and rub the bowels upward.

When the womb is bent backward upon the rectum it often produces constipation by obstructing the passage. Getting frequently upon the hands and knees, carefully observing the rules of diet, and injections of hot water usually give relief.

Sick headaches and many other disorders are caused by neglecting to evacuate the bowels daily.

As the health of working-women is often their all, it behooves them to attend scrupulously to the conditions which favor it. Attention to things which seem trivial in themselves will often save protracted illness. Drinking cold water, or hot if the cold distresses, an hour before meals and at

bed-time is sometimes sufficient to cure obstinate constipation—that is, if the moment inclination is felt, attention is paid to nature's call. A certain hour of the day should form the habit, and, at all hazards, be faithful to the time. Judgment should be used to fix upon a time the least liable to interruption. For girls at service this is often inconvenient, but usually with thought and calculation can be brought about. If when nature calls it is put off, as is often the case, she is offended, and will not, in all probability, call again in twenty-four hours. I have known girls acknowledge that they have felt repeated calls, and urgency even, and would put it off a whole week. Such neglect is always punished in the ways above mentioned, or by a rough skin, or pimples on the face, or something more formidable. If the terrible pains which some feel during their monthlies are not caused by these conditions, they may be by tight bands about the waists, corsets, or too heavy clothing about the hips. There should be no bands about the hips, but the under-garments made continuous from the shoulders, and so loose that they would fall over the hips if not supported from the shoulders. Those who have a supply of drawers can button

them on loose sacques or waists worn in place of the needless and uncomfort ble chemise.*

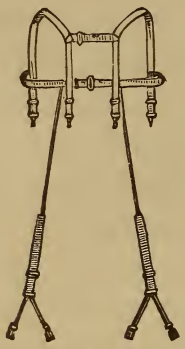


Fig. 20.—Favorite Shoulder Stocking-Supporter.

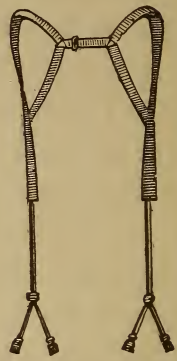


Fig. 21.—Nilsson Stocking-Supporter and Shoulder-Brace.

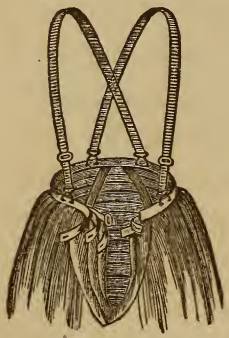


Fig. 22.—Peerless.

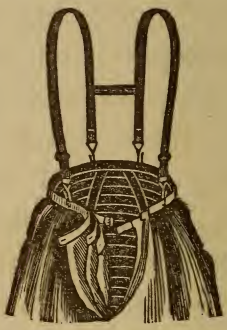


Fig. 23.—Nonpareil.

Skirt Supporters.

* At Mrs. A. Fletcher's, No. 6 E. Fourteenth Street, a variety of hygienic under-garments can be obtained; and to show the nature of these improved garments we have secured the use of a few illustrations (see Figs. 20–31) from her catalogue, which she will send to any address on application.

For rules and ideas upon healthful dress, as well as many

The care girls take of themselves the week previous to the monthlies affects them favorably or

Fig. 24.—Union Under Flannels.

Fig. 25.—Chemise and Drawers in One.

Fig. 26.—Princess Skirt.

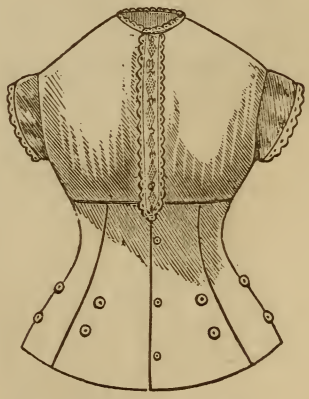


Fig. 27.—Princess Waist.

useful directions in matters which pertain to the education and health of girls, we refer the reader to Mrs. E. R. Shepherd's book entitled, "For Girls: a Special Physiology," price $1.00,

otherwise. The long walks which some are always in the habit of taking should then be omitted and great

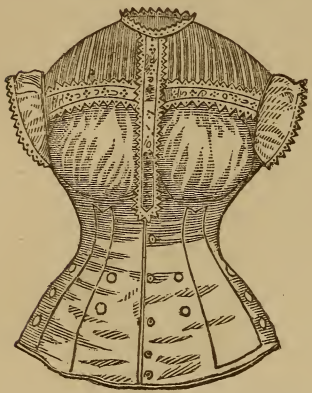


Fig. 28.—Emancipation Waist.

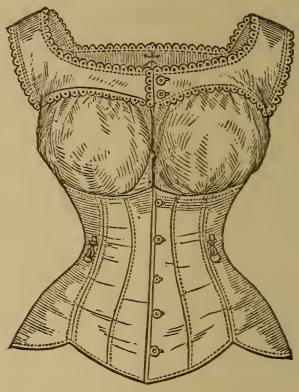


Fig. 29.—Dress Reform Corset Waist.

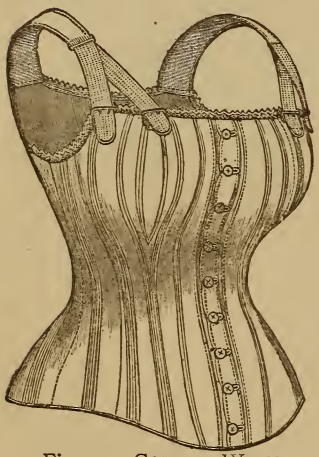


Fig. 30.—Corded Waist.

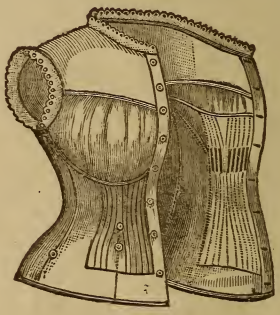


Fig. 31.—Equipoise Waist.

published by Fowler & Wells, 753 Broadway, N. Y. The best special work for girls and young women ever published.

care used not to take cold. There are very few housekeepers who, if they have a good, honest, and faithful girl, would not be willing to arrange the work, so that during the first two days of the monthly she could make it easier than at other times. Those who wash and iron will accomplish more work in a month if at this time light work is done—even if washing is postponed to some other day. The blood should not be heated or the muscles overfatigued at this time. Opera singers should not sing during this period, and should make it a part of their contract.

What the girls who do our cooking, eat, is often a cause of dyspepsia, headache, and constipation. It is difficult perhaps to be a good cook without tasting; but if everything is carefully measured, even the pepper and salt used in cooking, much of this can be avoided. It would also insure against mistakes, and the mortification felt in being found fault with.

Most ladies would sooner praise than blame those who serve them faithfully, and if those who serve would more frequently ask advice, they would feel less responsibility, and a confidence would be established between mistress and maid, increasing the happiness of both. Ladies do not tire of teach-

ing girls desirous of learning and who will remember what they are taught. How often in going the rounds of the house the mistress is told that her requests have been forgotten. It is no small undertaking, added to the care of children and the demands of society, to study and minister to the appetites of the "lords of creation." The chagrin housekeepers feel at dinner, perhaps with invited guests, to have the head of the house ask for some dish which he expected, and to be obliged to reply, "The cook forgot it," is very trying, to say the least. Such things, trivial in themselves, have sent many a woman in tears to her private apartments, if they did not fall even before she could reach them.

Girls can do no better or wiser thing for their own good and that of those they serve than to train their memories so that it is impossible to forget. This accomplishment would help make interesting a plain face and homely features, and, added to honesty and truthfulness, would almost revolutionize the present order of things. Our habits build walls about us when young which we can not without great struggles overcome in after-life; and as we are good or bad according to our habits, we should constantly study to improve them. It pays

better interest than any savings bank, and is the best inheritance we can possess or leave our children. If we rise at six o'clock habitually, we find it is no task to awaken at that hour; and if we desire to change the hour, we have to work diligently for a while to succeed. This is a good hour, and if we go to bed, as we should, at nine or ten, we obtain all the rest and sleep that nature requires. If we sit up until midnight or walk the streets, we not only feel tired and discouraged, but are unfitted for work; we get out of patience easily, and things go wrong generally; food is burned or under-done; accidents happen which would not if we felt happy and refreshed ourselves.

These are not the worst evils that happen to girls who are on the street at night. One of the best girls I ever knew was persuaded to walk at night with (as she supposed) a nice, respectable young man, the son of her employer. She was a seamstress, and, after sitting all day, she thought it would do her good, and, had she been wise in selecting her companion, an hour or two of exercise would have benefited her; but, as the days went on, she began to stay each night a little later, feeling safe because in good company. She, however, began to look thin and pale; her work dragged, her

interest in it was gone, and she failed to please her mistress. About this time she told me her sad story. She had trusted this *nice* young man too far; he had betrayed her, and she was ruined. I sent her from town for a year, and she returned a wiser, but a broken-hearted girl; giving the remainder of her life to charitable works. She learned too late, and to her sorrow, that any man who would keep her from her rest and on the street after ten o'clock at night, cares for her *only so far as she can serve him.* His devotion ceases when his desires are gratified. *Girls will find that the men who betray are the first to scorn them for their weakness.* Some one has said that nearly all the mischief in the world is done between ten and twelve o'clock at night, and, to keep out of danger, girls should never be out after ten unless it is absolutely necessary.

This is a social world, and those who work need, more than any others, to see their friends (and have a good time). Nothing is truer than the old adage, "All work and no play makes Jack a dull boy." Two evenings a week to see and enjoy friends is necessary. If employers provide for the social enjoyment of help, they, in turn, will not look cross, and be disagreeable if unexpected guests are an-

nounced, as they often must be, in all homes worthy the name. Nothing annoys a housekeeper more than unexpected company, with a cross cook. Whatever happens we should keep good-natured. If there is good-feeling and sympathy between mistress and maid, the household machinery will run smoothly; if one or both are out of humor, or there is misunderstanding between them, it is apt to extend to all the household and prevent enjoyment; it makes the children irritable, and the rough and sharp phases of life stand out in relief, while the sweet and beautiful are hidden out of sight. If a good cook holds possession of the kitchen, all things else being equal, the home ship sails so quietly, its machinery is so noiseless, its airs so healthy, strangers wonder where the charm lies. A heavenly atmosphere pervades such a home, whether it be cottage or palace, and it is far more likely to be the former, for the reason that few are required to take care of the cottage, while the palace requires endless work, and a great number of workers. Large numbers are likely to contain some who do not understand the great truth that to be happy we must make others so; they forget the golden rule.

The great question among thinking people now is, who will serve them best, and experiments are

being made with people of different nationalities to find the honest, faithful, and intelligent help so much needed in this country. For a long time the colored race held sway; then old Ireland had it all her own way; now the Germans and Swedes are held in esteem, and the Chinaman, too, comes in for a share. If I am a true prophet it will come to this: a new nationality will spring from all these, and if girls are smart enough to go without husbands, unless they can get those who do not smoke or drink, husbands who are honest and industrious, who can lay by something each year for a rainy day, this new race will be a great improvement on any of those mentioned. It is a good thing for the country that the large families are among the working classes. The children of workers are worth a dozen times as much as the children of the rich and idle. We have little to fear from the last named, however, as there are so few in each family, and, as things are going, the race will soon die out.

There is danger, however, of injuring the children of working mothers before birth by overwork, and of the rich by underwork or inaction. Working mothers, and all mothers, should avail themselves of the knowledge which farmers who desire to raise beautiful and healthy stock seek diligently to find;

then will their children possess the strength the body needs in battling with life, as well as a brain capable of becoming skilled in all departments of learning. Nearly all the great and good men of past ages have been children of working people, who were religious, temperate, and frugal.

We should not envy the rich, for people of moderate means and industrious habits are, as a rule, far happier than those whose millions are like millstones about their necks, dragging them down, shutting up the avenues of the heart to the needs of God's suffering ones. Riches rarely make people generous, but are far more likely to become a burden and a snare by causing envy and strife among their possessors. "Give us neither poverty nor riches." No matter how rich people are, they should not squander money. It is almost as wicked to waste as to steal. Those who make the most of everything and follow the teachings of the Bible, which says, "Waste not," will have a good conscience before God, and always find a good home. There is nothing like honesty and truth to recommend one in the world, and if girls understood their own interests, they would never have it said they were eye-servants. Work half done injures the girl more than her mistress; it makes bad hab-

its; it strengthens a careless and indifferent way of doing things, which, when they get homes of their own, will bring disorder and discomfort, instead of frugality, neatness, and tact, which all good men want in a wife, and without which home is only an empty name. Every man who is worth marrying expects a tidy, frugal, and loving wife; with these qualities, and with a knowledge of how to take care of the health of a family, any reasonable man will be satisfied.

Girls must be loyal and true to those they serve; they can deceive in a thousand ways if they choose. It is easier to cover up faults than to confess them; it is not as good for them in case of accident, like the breaking of china, to attempt secrecy; it will be known sometime, and perhaps innocent persons may be blamed. "Confession is good for the soul."

We often meet people who are ashamed to acknowledge they were brought up to work, and by all sorts of devices try to deceive in this matter, as if it were a disgrace to know how to earn one's own bread, ashamed of not being a burden upon friends. It should rather be a disgrace to be a pauper, to willingly live on the hard-earned savings of others. There are many noble examples of the daughters of well-to-do people who are unwilling to be a bur-

den upon their parents, who are every year joining the ranks of working-women, and crowning work itself with glory. Their examples will live in history centuries after all remembrance of society girls has passed away. The light of the former is fixed like the stars. The latter give, like the glow-worm, only occasional glimpses of unsteady light, fitful and delusive. I love to shake a hand which has strength in it, even if it be hard and rough; it is a sure token that its possessor is worth something, and can earn a living. Soft hands sometimes are obliged to work with little strength in them; it is much harder than if they had learned, by degrees, in youth.

There should be order and system in all things; when a meal or a day's work is planned, it is half done. There are many girls who never thought of a rule to wash dishes by, or to make a bed, or to sweep and dust a room, not knowing that half the work is saved by carefully studying and planning the best and easiest mode of doing it. One reason why work seems so hard and difficult to some is that they attempt to do it before they have learned how.

In order to prepare and put dinner upon the table in good order, and serve nicely a variety of

dishes, the cook must exercise all the energies of her mind; she must think and act quickly and make close calculations in order always to have the meal on time. Nothing so provokes ill-temper, or puts things out of joint generally in a family, as having a late dinner; children become rebellious and unmanageable; and if the head of the family breaks the grim repose which has settled upon his face, it will be to denounce the dilatory cook. Under such circumstances I have heard them aver that they could begin at the beginning and put upon the table a square meal in half the time it would take any cook. I never objected to thei making the experiment, thinking it would take away some of their assurance. While the family are eating, there is usually time, after serving, to wash the cooking dishes; then the kitchen-table is ready for the meals to be cleared away in an orderly manner. Great care should be used in washing and rinsing to avoid cracking and chipping the china. A place to drain, and soft, clean towels to dry with, will insure freedom from sticky and rough china. A suitable dish for each kind of broken food should be at hand to insure cleanliness. Most people would eat soup at dinner if girls knew how to make a variety and always have it palatable. There is

usually sufficient meat and vegetables remaining from each day's cooking for a good soup without buying. The meat should be simmered twenty-four hours without boiling; then it should be strained, and chopped vegetables, rice, pearl barley, or tomatoes added. After these additions it needs careful watching, as it easily burns, and all food is spoiled when flavored with scorching. In this way a smart cook will not waste an ounce of food in a month, and at the same time will furnish a healthful and an economical dish. Once a year in the city the meat and pastry cooks of hotels and restaurants have a festival, each supplying a portion, and each striving to make the best and most beautiful things in their line. Girls who do our cooking would do well to imitate them, and meet once or twice a year, bringing samples of their best bread and pastry, and discuss cooking in all its details, as well as the importance of neatness and dispatch in doing work.

Girls should make a presentable appearance when answering door-bells, and make it a rule when necessary to tie on a clean apron and roll down sleeves before opening the door. Better impressions are given people, when entering a house, than if a slovenly or untidy girl ushers them in.

If the worry and care which housekeepers suffer on account of ignorant, wasteful, and slovenly help could be known, it would arouse the community to make adequate provision to remedy it.

Young mothers need to be relieved from anxiety while bearing and raising their children, and although each woman should before marriage learn the details of housekeeping, one brain and one pair of hands can not always be relied upon. Servants are not always to blame for not knowing the best and easiest ways; many of them were raised in poverty, with no opportunity of learning; but light is beginning to dawn for all who wish to perfect themselves in any department of industry. This great need is beginning to arouse individuals who are establishing industrial schools in different parts of the land, where all work which pertains to home-life can be learned, as well as all sorts of handicraft. I trust the time is in the near future when a certificate of qualification or a diploma will be required of all applicants for situations. I hope, also, that the State will aid this much-needed work, and remove all children from the degradation which ignorance, crime, and pauperism entail in poor-houses and prisons, and educate them in these schools. It will cost less to save than to let them grow up

in sin and shame, thus perpetuating crime and criminals.

Working-women should know that in bearing and bringing up children much more depends upon them than upon the fathers. To have healthy children, both parents should be healthy; but during pregnancy, and while nursing, the blood of the mother is the food of the child. Milk is purified blood.

If a cool, calculating brain controls her movements, and prevents her getting heated and irritable, her children will be an improvement on those of her fretful and complaining neighbor. Children know long before they are a year old a frown from a pleasant face, and as they are to do nothing but imitate for the first few years of their life, it is all-important that they have a good example to follow.

It is very hard for a poor woman to stand over a wash-tub four or five days every week, until and after her child is born, to earn bread for her other children and, perhaps, a drunken husband, and not feel cross about it. Her milk becomes heated, and the child becomes irritable, and sometimes is thrown into convulsions from swallowing it. If she, after trying a reasonable length of time to reform her

husband, does not succeed, she should exercise her right to have no more children.

It is almost impossible for mothers under such circumstances to remain in a happy frame of mind, and if getting out of patience did them or their children any good, I should not remonstrate; but for the sake of innocent children, the mother should never, under any circumstances, fret and scold. These children feel the unrest which she felt—it was born in them; it urges them on to untruthfulness and vicious habits and practices. It is possible to prevent them by surrounding them with happy and smiling faces, and with constant amusement and employment.

I can not feel that scolding or whipping children ever reforms them; they may be awed into submission, but are sure to break away from restraint, and repeated punishment hardens them. Children should never be threatened, but compelled by a strong will-power, and a steady truthful carrying out of plans, to yield to parents. They detect the least shadow of a vacillating spirit, and know how to take advantage of it.

Be slow in making promises; but if made, let the heavens fall before breaking them. Remove temptations from them, and watch for the amusements

or diversions which keep them quiet the longest, and try to find, while growing, what work is best adapted to each.

Plain food given regularly will not be as apt to create a desire for stimulants—as condiments and food not conducive to health. Children should never be allowed candies or confections. Few people realize that our thoughts are pure and good, according to the good or bad food we eat; the importance of having the plainest and simplest meal made palatable, and eaten in cheerfulness, can not be overestimated.

CHAPTER XI.

THE UTERUS AND ITS APPENDAGES.

FROM puberty until the cessation of the menses, ceaseless activity is going on in the womb. This

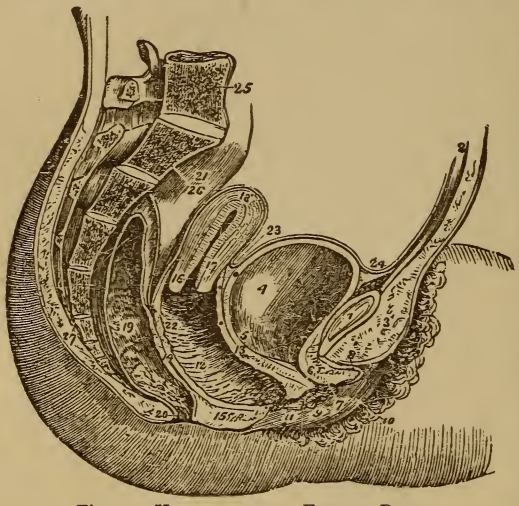


Fig. 32.—VISCERA OF THE FEMALE PELVIS.

1. Symphysis pubis, to upper part of which the tendon of the rectus muscle is attached. 2. Abdominal parieties. 3. Collection of fat, forming the prominence of the mons Veneris. 4. Bladder. 5. Entrance of left ureter. 6. Canal of urethra, converted into a mere fissure by contraction of its walls. 7. Meatus urinarius. 8 Clitoris, with its præputium, divided through the middle. 9. Left nympha. 10. Left labium majus. 11. Meatus of vagina, narrowed by the contraction of its sphincter. 12, 22. Canal of the vagina, upon which the transverse rugæ are apparent. 13. Thick wall of separation between vagina and rectum. 15. Perineum. 16. Os uteri. 17. Its cervix. 18. Its fundus; the cavitas uteri is seen along its center. 19. Rectum, showing disposition of its mucous membrane. 20. Anus. 21. Upper part of rectum, invested by the peritoneum. 23. Utero-vesical fold of peritoneum; the recto-uterine fold is seen between the rectum and the posterior wall of the vagina. 24. Reflexion of the peritoneum, from the apex of the bladder upon the urachus to the internal surface of the abdominal parieties. 25. Last lumbar vertebra. 26. Sacrum. 27. Coccyx.

is the last organ to become perfected, and exerts a powerful influence upon the body. It is as different in individuals as are their faces.

The womb is pear-shaped, as seen in Fig. 33; flattened at the top, and an inch in thickness; weighs from one to two ounces. The cavity is small compared to its size, and its walls are half an inch in thickness. It is situated between the bladder and rectum. It grows into and rests upon the vagina below, and its upper end leans over the bladder; the mouth points toward the rectum. It is nearly three inches in length, two in width at the top, and an inch in thickness. (In studying this wonderful organ, I am so overwhelmed by its marvelous mechanism, and by its power to influence for good or evil the millions who are to come after us, that words seem meaningless when I undertake to describe it, or to delineate its functions.

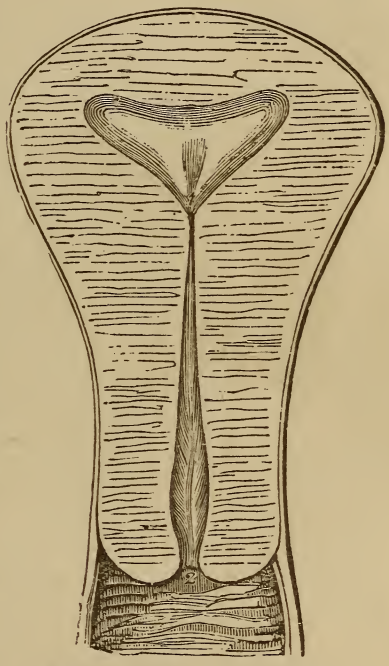


Fig. 33.—Cavity of the Uterus.

Volumes have been written upon it, and yet we know comparatively little in regard to the momentous interests which hang upon a knowledge of it.)

It is composed of cells so minute that not one has ever been seen by the naked eye.

When examined by a strong glass, the muscular fiber which is made of these cells, seems to have alternate layers of light and dark spots upon them. The dark spots are elastic, and when contracting, the elevations forming these alternate layers appear to play like waves along the fiber; the average diameter of these fibers varies from one ten-thousandth to one twenty-thousandth part of an inch. In labor these fibers contract with such force that the hand of the accoucher is sometimes caught and held, as in a vice, and must remain stationary until the pain is off, and the fibers relax. It is the shortening of the womb, by the contraction of these fibers, that expels the child.

The womb is wonderfully strong and elastic. Blood-vessels and nerves form most of its substance. It is literally a bundle of nerves, and those which supply the womb are in sympathy with every part of the body. This is the reason the stomach and brain of pregnant women suffer.

When empty the womb will not contain a table-

spoonful, yet it will grow so as to contain twins, two after-births, and from a pint to a quart of water. Nature intended this water as a protection for the child, and to prevent its adhering to the uterine walls.

The power of the womb is so great that it can ordinarily expel its contents, and become nearly as small as before pregnancy in a few hours. During

Fig. 34.—Vessels of the Uterus.

pregnancy the substance of the womb is greatly increased. Many persons suppose that it merely stretches its walls to accommodate the growth of the fœtus; this is not so; the walls at full term are nearly as thick as in the natural state, and it weighs from two to three pounds. The blood-vessels grow like the limbs on a tree, constantly sending out

branches which in time become trunks for other branches.

In order that nature's operations may be carried on successfully and easily, it is necessary that the blood circulate freely, that the womb should be healthy, and in its natural position. If the nerves be diseased their reflex action is felt to the remotest parts of the body.

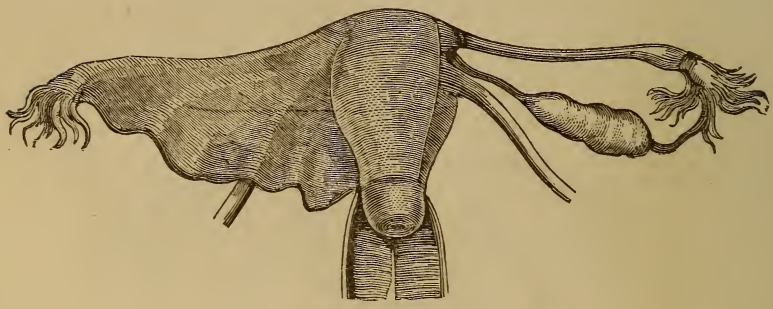


Fig. 35.—The Uterus and its Appendages.

On both sides of the womb are two hollow tubes attached to, and opening into it at one end, while the other is spread out like a fringe, and is used to grasp the egg, and convey it into the womb; these are called fallopian tubes, and are about four inches in length. Also on each side are two oval-shaped bodies, resembling in size and shape a large almond: these are the ovaries which contain the egg. Each

ovary contains from fifteen to twenty ova, or eggs, at one time, and when ripe they are about the size of a pin's head, but vary to the smallest inappreciable point; no two are exactly the same size; each egg is inclosed in a sac or vesicle, and the one nearest ripe bursts through fold after fold of membrane, and discharges itself, either to be carried into the womb for impregnation, or lost in the cavity of the abdomen. At the change of life (the meno-pause) they stop growing. As the existence and perfection of our bodies depend upon this miraculous egg, it is of the utmost importance that its nature be understood, and the means of surrounding it with conditions favoring the most perfect development of health and beauty, that it may possess all the possibilities intended by the Divine Architect.

When we know, as we do, that this microscopic body contains within itself the dispositions of three or four generations, their peculiar tendencies to health and disease, the color of their skin and eyes, and an infinite variety of characteristic traits, may we not hope that educated motherhood may, in the near future, be able to direct these forces to the exaltation and perfection of the race?

In a fecundated egg, which is so small that a thousand may be held upon the thumb-nail, is con-

tained the elements of a new soul, and the principle of a new life. It represents an individual who, by virtue of what is now contained within it, will be a success or a failure, depending in a great measure upon what the parents choose to make it. "If we are selecting seed to sow in our gardens, how carefully we choose the most perfect, and in watching its growth, favor its development by all the knowledge chemistry and agriculture have brought us."

We turn in all directions and see improvements upon nature in plants and animals. Men engaged in raising stock are extremely careful in the selection, and also in the care of the animals before giving birth to their young; their food and drink are daily weighed, their exercise continued just long enough to keep the muscles in perfect health; grooms stand ready with brush and comb to take the necessary care of the skin the moment exercise ceases. The air they breathe, the beds they sleep on, and everything which can be done to benefit the embryo is regulated with a care most men would do well to imitate in their families. These persons compass sea and land to improve on nature, and to prevent the multiplication of dwarfed or diseased specimens of their kind.

When the vital principle of the male has found ac-

cess to the egg, it is in an active state, and becomes imbedded in it, and is for a time nourished by it, in this wonderful apartment which the Creator fitted up so that the work can go on unmolested.

The womb makes preparation by sending out from its walls curtains or envelopes. They wrap it around by degrees, and in time form the sac which holds the water. The sperm which is furnished by the male, is an oval-shaped, flattened body, one eight-hundredth of a line in length. A line is one-twelfth of an inch, and this divided eight hundred times makes a point not appreciable by any of our senses, and yet, as before stated, it contains features, expressions, hereditary predisposition to health or disease, mentally and physically, color of hair, skin, and eyes, and all things which give character to the future being. It may become enfeebled by disease, intemperance, the excessive use of tobacco, and various other causes; and thus render children susceptible to disease, if indeed it is not carried into their tissues.

The eighth day after the egg is impregnated, a small, semi-transparent drop may be found adhering to the side of the womb. Some physiologists say if it is attached to the right side, it will be a male; if to the left, a female. This is conjectural,

however. On the twelfth day a dark spot may be seen, indicating the place of the heart. At the twenty-first day it has attained the size of an ant. On the thirtieth, the budding projections of the legs may be seen; at three months it is three inches long; and at four, feeble and indistinct movements may be felt by the mother.

Some people contend that before life is felt, the fœtus may be destroyed without sin, and many women resort to some one among the legion of modes to destroy the embryo. Could they know what sudden destruction follows such a course, they would pause before they undertook this murderous work. I have seen the mouth of the womb torn, as the ear would be if the ring were pulled through it, and ulcerated, and the organ dislocated, from this cause. Sometimes the health is completely broken, the mind weakened, and the victim rendered miserable for life. This, more than anything else, is ruining the health of women, making cripples and idiots of children, and filling to overflowing the prisons, asylums, and poor-houses in our land. After all their efforts, they are oftentimes unsuccessful, and the children are born frequently with deformities, and an unrest which urges them on to crime, and for which the parents are, in part at least, responsible.

Is it a wonder that sin in all its hideous forms stalks abroad in the land, when the fountains of life are thus poisoned?

The promise made to Eve, that she should be the mother of multitudes of the human race, would sound in the ears of women in modern society more like a curse.

Milton says, "Our Maker bids increase; who bids abstain?" and dilates upon the relations of home and the charities which are born in it, and around which cluster all that is loyal, pure, and good; a perpetual fountain of domestic bliss.

If society could be freed from danger in this direction, and a healthy desire for large families prevail, we should feel that the plague had been stayed. When this time comes, there will be few who, for gold, will "abdicate a throne of glory for a temporary wallow in the mire."

During pregnancy, the minds of mothers should be watched, as well as their bodies, with the greatest care; I have had sad proof that fright or unpleasant sights will affect a child in embryo. I was once visiting a lady whose child was thrown from a carriage and instantly killed. The father brought its dead body and laid it in its mother's lap, two weeks before another came. The eyes of the dead child were photographed on the unborn; it was born

blind, and always remained so. Had the husband prepared the wife for the event, and laid the child upon the bed, invoking reason to aid her, the calamity might have been averted.

Another lovely friend was walking in her garden at twilight; a snake ran across her path, lifted its head as if it were going to dart at her; she ran into the house terribly frightened, and when her child came it had no bony structure to give it uprightness and strength. The head was pointed, the eyes rolled, and all natural expression taken from them. It is now sixteen years of age, and has never sat up. It presents a deformed and ghastly appearance, and the sweet, sympathizing heart of the mother is broken; had she been on her guard, or had an attendant with her, in all probability this calamity would have been averted.

The various diseases of pregnancy should be strictly cared for, the diet and bathing attended to religiously, and less attention given to making elaborate clothing. I confess to great pleasure in arranging these little wardrobes to a moderate degree; but when women spend their entire time, for weeks and months, indoors, in a sitting posture, doing all sorts of fancy and machine work, they may calculate upon hard labor.

Some will not see their best friends on account of their appearance, fearing remarks in regard to their condition. It is not God's design that women should hide themselves while the building of His temple goes on. The fruit of a tree does not hide under its leaves. Gestation is not a disease, but a favoring condition of health, and restores many to health and soundness who had for years suffered with weakened organs.

Husbands should redouble their attentions in anticipating their wants, calming their fears, and in soothing when irritated. They can not guard them too carefully. When it is possible, they should be surrounded by objects of beauty, and provoked by kindness to good deeds. While bearing children, the mind and body of the mother should be actively employed, not taxed or overworked, but pleasant and useful occupation should fill every waking hour.

Pregnant women should be hopeful; not one in hundreds have need of fear. They should not attend parties or balls, and should avoid heated rooms and excitement.

Dancing and horseback-riding should not be indulged in, and crowds and disagreeable people avoided.

Daily exercise in the open air is conducive to

cheerfulness, and the health and safety of both mother and child.

The food should consist of fruit and rice, with vegetables, and the bowels kept free by proper diet and water-drinking at proper times, as suggested elsewhere. The habit of taking laxative medicine, frequently, brings incalculable evil.

Where a difficult labor is feared, no bread should be eaten for two months previous to confinement, as it contains the elements of bone.

Much harm has been done by indulging in longings, and by the use of strong tea, coffee, and stimulants.

The teeth should not be operated on; and the feelings of grief, jealousy, and hatred should not be indulged.

It would seem that reason would teach a pregnant woman to wear loose clothing; but I hear some say, they wear their dresses as at other times, without change. Club-feet have been traced to this cause. The bodies of women during gestation need the freedom which all animated nature needs, to perfect the organization of its offspring.

As married life is incomplete without children, it is even more so when they come uninvited. No pleasure so great, no joy so unalloyed, as that of a

babe born under the right conditions. These pleasures and joys are divine. Oh, the pity I feel for the thousands of unwelcome children which are at this moment sending to heaven their wailing cry all over this sinful land! They cry from a deep unrest, which urges them on into avenues of sin and crime with little or no power to resist.

The influence of the parents before birth never ceases; when the time of accountability arrives, the force which has already gathered in the wrong direction will, almost surely, still urge them on.

A prominent author says, there is no such thing as a self-made man. Men are what their mothers make them, and through mothers God shines into the future generations.

Above all, the law of continence should be kept inviolate. *Whole families of children have been enfeebled, and their nervous systems ruined, because the head of the family claimed his marital rights.* Strict continence, for a month at least previous to conception, should be enforced.

If the father is addicted to tobacco or alcoholic drinks, or to high living, he must abstain from the first two, and his diet must be of the best but plainest food. All the moral attributes of his nature must undergo rigid discipline and purification.

During this month of preparation, which is all the chance he will have to stamp his thoughts, wishes, and individuality upon the new life, it behooves him to make the most of his opportunity in this, the most important act of his life.

A woman should, during this period, avoid all persons and things which vex and annoy her. Husband and wife should occupy separate beds.

Eminent physiologists say, that if the will be sufficiently exercised, almost any desired form of the human body can be produced, and that the child's occupation should be decided upon by the parents before conception, without a doubt of its being fulfilled.

Dr. Moore, a high authority, says: "Our education begins with our forefathers"; and in Napheys' "Transmission of Life," * page 224, we read that intellectual excellence is generally the result of ages of mental cultivation, and the acquired habits of life are more certain of transmission than physical peculiarities.

If to have children is a blessing, how much more

---

* "The Transmission of Life: Counsels on the Nature and Hygiene of the Masculine Function." By G. H. Napheys, M.D. Price, $2.00.

to be desired are perfect ones. Perhaps not one child in a thousand is born under the right conditions. The millennium will never come except through the loving obedience to ante-natal laws. All the churches, temperance societies, and divines in the world combined, with all their heavenly influences, can not do as much as mothers in the months of pre-natal life. If the world could be aroused to the importance of this one thought, and both parents observe from a month to a year's preparation, the prisons and almshouses, hospitals and asylums would not require the time and unceasing labor, nor need the millions of treasure which are now used to support them. It is humane in government and individuals to build and care for these institutions; it would be a thousand times more so, to prevent the need of them.

"Children born under the right conditions know only the bright side of life; they experience its successes, because before birth they took on the joy and glory belonging to a soul in harmony with God's laws." They must in the next world maintain their supremacy over their unfortunately conceived fellow-beings. Children have a right to this inheritance. It is estimated that a couple having five children will in five hundred years have two

million grandchildren. The importance of having good ones stands out in mighty proportions.

When the world can furnish men with perfectly healthy organizations, with well-balanced brains and nervous systems, not enfeebled by the causes before mentioned, or by too much indulgence of the passions; and mothers whose education shall include a thorough knowledge of physical laws, without hereditary taint, we may look for a generation improved beyond our present power to calculate.

Most persons who have become celebrated for character, genius, or valor were the fruit of ardent and vigorous love. They were children of parents remarkable for physical strength, harmony of mind, and refinement of the feelings. Persons of strong and sound bodies beget vigorous children; but excess in labor, mental or physical, enfeebles the offspring. This is why the simple rustic may beget children of high physical and moral powers, while men of genius who over-exert their mental faculties often engender children feeble both in mind and body.

"Prolonged abstinence has in all cases a tendency to make healthy children. The father of Montaigne returned, after many years' absence, from the wars

of Italy, being during his absence strictly continent, and begat his celebrated son."

If the healthy mind is educated, and all the powers of nature aid: a nervous force, a strength of vitality will be added to our children before this "gate of gifts is closed forever," which no training can afterward impart.

When men and women understand the sacredness of the marriage relation, looking upon it not as a means to acquire wealth, or the gratification of the passions, but as a union of soul—an expanding of their higher faculties, a union which, in respect to the laws of their being—they shall bless instead of curse coming generations, will the tide of crime which now desolates the land be stayed, and the corrupt current of life be purified. "Then shall the human race start into new life, and drawing nearer to God, be pervaded by the harmony of His Spirit, and irradiated by the brightness of the spirit world."

Youth and beauty are desired by mankind, especially by women, and they should understand and appreciate the fact that in bearing children, with the conditions properly adjusted, beauty is retained, if not acquired, and old age put a long way off.

Prof. Duncan says that marriage at a tender age, before women are perfectly developed and capable of administering to all the wants of their children, is not only less fertile, but their children also increase the rate of mortality.

The proportion of children who arrive at maturity is greater in those who are the fruit of women from twenty to thirty-five years of age. The mortality among women is greatest in those who marry between fifteen and twenty. The reason is, the organs have not ceased to grow, and development is imperfect.

Those who have the care of young girls should heed these facts. The exceptions to this rule should not govern the minds of parents or guardians. If more heed were given to experience, and less to the desires of youth, many beautiful lives would be spared to bless the world by their shining.

It was considered a disgrace in Bible times not to have children; it should be so now, if it depends upon the will or pleasure of the parents. It is desolate indeed for the aged to wander up and down the earth alone, to sit by the silent hearthstone thinking of the hereafter in which they can take no part.

When families do not have children, the cause is generally attributed to the woman. Sterility among men is rare, although disease may render them so. It is of the greatest importance to ascertain the cause, in order, if possible, to overcome it. According to the latest observations, more than half of the married women who are sterile have become so by using some kind of preventive, thus avoiding the responsibilities of married life. I am unable to explain the reason, but conclude nature becomes tired of being cheated, and refuses to forgive such wicked transgression. Another cause is too frequent indulgence of the sexual appetite. As proof of this, I have advised a separation of months. The result proved successful. Generally women are sterile about two weeks in each month, after the ovum (or egg) passes, which is usually from two to twelve days after the menses; conception can not take place until another leaves the ovary, and is carried through the fallopian tube into the uterus. Many persons who do not desire children avail themselves of this knowledge. There are conditions in families when it is just as much duty to avoid increasing them as to provide for those already there. We have reason given us to use, and should not hide it under blind chance or

superstition. Very few women conceive while nursing; it is best for the nursing child, the mother, and the child unborn that they should not, and continence should be observed at this time. I have known instances, however, where a woman has borne twelve children without ever having a monthly period. In one case of this kind, the mother died at the birth of the twelfth child from exhaustion and overwork, and six of the children were too feeble to raise. With a knowledge of nature's laws, she could have regulated the number of her children, and lived to enjoy and bless them, as all families are who grow up under the care and love of a good mother.

It is estimated by our most eminent and scientific writers, that one woman in eight is sterile; besides the causes already mentioned, there are others, such as deficient ovaries, or fallopian tubes, strictures in the womb or vagina, acid or alkailne action of the fluids, flexions, and many which are conjectural; it is also caused by ulceration, obliquity, and many forms of displacement, and by leucorrhœa. Most of these cases can be cured, and many more would be, were there enough thoroughly educated women who by professional eminence and responsibility could take the entire charge of this

department of medicine. An eminent surgeon told me not long since that he did not believe there was a true-hearted doctor in the land, who did not in his heart feel this was woman's work, and said he would labor to wrest it from the hands of men, and to confer it on woman, "As it was in the beginning and ever should be." The first male accoucher who ever officiated attended the mistress of Louis XIV., about two hundred years ago; and it was thought so disgraceful that to save his life and keep him from violence, he was conducted to her apartments in female attire. The saddest part of it is, that mortality among women and children has greatly increased since this innovation.

The idea that women must experience voluptuous sensations in order to conceive is untenable, and so proven by thousands of mothers who have borne large families. In fact, and I am sorry to say it, most of the children now living came into the world under protest.

CHAPTER XII.

MENSTRUATION, AND CARE DURING IT.

FROM twelve to fifteen years of age, in temperate latitudes, girls begin to menstruate, but it has been delayed till the thirtieth year, and pregnancy in the meantime has taken place. Climate, constitution, social position, and various other causes determine the period. In hot countries, and cities, and in high life girls menstruate from two to three years earlier than those who live in the country, away from the society of men, or in cold latitudes. The quantity of the discharge is much less in cold climates. The Esquimaux menstruate only in summer, and then very scantily. The menstrual fluid is unlike blood, as it does not coagulate when the uterus is in a healthy state; this is accounted for by its admixture with mucus, which nature furnishes to keep it in a fluid state. As a rule, the period should last from three to five days, but it often extends to seven or eight. The quantity varies from six to eight ounces, but varies with

climate, constitution, and habits, as before stated. The monthly should occur once in twenty-eight days, and continue from thirty to thirty-five years, unless interrupted by pregnancy or disease. The discharge is probably the result of throwing off the old membrane, which ruptures some of its cells and causes the flow. Some writers attribute it to the bursting of a graffian vesicle, and escape of the ova, or egg; others attribute it to nervous excitement, or an exalted state of the nervous system. At the time of puberty a great change comes over the mental and physical condition of girls; their breasts begin to enlarge, and the body rounds into more beautiful proportions. Sometimes they are shy, and cry easily; at others petulant and irritable; at no other period do they require such watchful care. I have known many instances where mothers have failed to tell their daughters in regard to it, and when it appeared they were frightened, and ran to the brook, or a spring, and washed their garments, and dried them upon their bodies. One in particular I remember, who broke a hole in the ice, and washed her chemise; she took cold, and died of consumption in a few months. Another went to her room, and sat for hours in cold water; she still lives, but her sufferings all through life would

appall the hardest heart. The minds of girls at this period of life should be free and happy. No confinement in schools, or at distasteful labor. The appetite should be watched lest some injurious habit be formed; slate pencils, soft stone, charcoal, chalk, spices, coffee, and other injurious articles have been eaten until health suffered materially. In one instance the bowels became impacked with soft stone, and the patient paid the penalty with her life. Girls at this time of their lives should live out of doors, and wear the clothing so loose that the chest and breasts may not be compressed in the slightest degree. The breasts are exceedingly sensitive. and should be protected by padding the dresses with cotton, especially if there be little fatty tissue to cover them. The slightest touch often gives extreme pain, and slight bruises sometimes cause them to suppurate. I once knew a case where the mother had tried in vain for days to find the cause of suffering in her daughter; she would cry out in her sleep, so great was her agony; but she persistently refused to tell where she was sick. When I was summoned, and removed a shawl which she had worn to conceal the trouble, I found an abscess which, when opened, discharged half a pint of pus; she made a rapid recovery, but the

breast was ruined for life. Knowledge would have saved this trouble and suffering; and the mother whose false modesty prevents her from teaching the things her child ought to know does not understand her duty. If this teaching is begun early there will be no estrangement of which some mothers complain, which prevents the easy access to the innermost thoughts of her children.

The monthly flow should be as painless as digestion. It is usually, however, heralded by lassitude, a sensation of weight in the lower part of the abdomen and loins, and by painful swelling of the breasts. When the nervous temperament predominates, a general excitement of the whole body prevails, which sometimes induces hysteria, melancholy, etc. Sometimes there is a mucous discharge, but slightly streaked with blood. Some have palpitation of the heart, others have an eruption on the face at these times; when any of these symptoms are present, there is more or less trouble with the womb or ovaries; sometimes the mucous membrane of the womb is thickened, and causes catarrh similar to that in the head and throat. Cramps and severe pain at the monthlies are often the result. Injections of hot water once in two or three hours usually afford relief in this

painful form of menstruation. If it does not, an experienced lady physician should be consulted before it becomes chronic.

Great care to avoid taking cold at the monthlies should be used. Among the educated and cultivated Germans during the monthly action, women do not mingle in society, but for two or three days remain in bed; they eat no meat during this time, as it is harder to digest, and makes more blood than farinaceous or vegetable diet. During the monthly the womb is heavier than at other times, because its vessels are surcharged with blood. Standing upon the feet and walking at this time makes it fall easier than at other times. If women of high position would introduce the German custom into this country, they would save a multitude of ills; for she would be a bold woman indeed who did not bow to the behests of fashion. All mental or physical labor which quickens the circulation, all indigestible food, and excitement should especially be avoided at this time. More work in the aggregate would be accomplished by heeding these suggestions.

Diseases of the womb are insidious in their approach. When we are made aware of them, through sympathy with some other organ, it is of long stand-

ing. Thousands of women who to-day are invalids, and many among them incurable, would have been full of strength and vigor had they paid attention to little irregularities. Nothing pays better than care at this time. People, everywhere, try to alleviate pain, and do not reflect that it is the sentinel telling them where the danger lies. To kill the pain without removing the cause, is like knocking down the sentinel while the train rushes on to destruction. Tight dressing is the direct cause of versions and flexions innumerable. Few mothers are aware of the pressure brought to bear upon the womb when encasing their girls in corsets. Heavy skirts hanging upon the hips, and even drawers bands alone, may cause the womb to fall, or settle as low down in the body as possible. Add to this the round and exciting dance now in vogue, and it would seem a miracle if any escaped. I remember one young girl, whose mother failed to educate her in these essentials, who entered society at the age of seventeen; she attended parties and balls, and danced until "the wee sma' hours" two or three nights in a week; she often danced hours without resting, except, perhaps, to rush into the open air for a few moments when heated to a white heat, as she termed it. She said she often felt as if everything in her

body was falling out. In the course of a year an ovarian tumor developed itself, and great fears are entertained regarding her future. Sometimes the womb is bent so sharply upon itself that during the monthly the pains are terrific. The number who suffer from flexions is startling.

The common causes of irregularities, and the various kinds of misplacement, are taking cold, wet feet, too much mental excitement and application, sedentary life, violent exercise, late hours, constipation, passion, grief, immorality, disappointed love, homesickness, and frights. Sometimes, many of these combine to cause the trouble. It often takes years to cure what ought to have been prevented. Persons with these troubles may be handsome, healthy-looking women, whom none would suspect of ever having need to consult a doctor, yet they are irregular, and suffer great pain and inconvenience; they are frequently troubled with flushed faces, and a rush of blood to the head, and often have severe sick headaches. These people should take all the exercise possible in the open air, eat mostly fruit and lean meat, and take great care of the skin. Full-blooded people who are inclined to grow fat should eat less, and in these cases the womb should be carefully straightened by experienced and

reliable physicians, and held so by a uterine stem-pessary until cured; no support should be used which distends the vagina in the least degree.

Those who are too thin should drink water freely, either hot or cold, and eat eggs, vegetables, milk, and cream in abundance.

Some women have what is called vicarious menstruation; once a month they vomit blood, or bleed at the nose or rectum; sometimes the lungs become engorged, and hemorrhage from them may last several days.

Often an eruption appears on the face from painful or delayed menstruation, which disappears when it is established. Great nervousness is usually present in these cases, neuralgic pains in the breasts and legs; sometimes hysteria and mania accompany this condition. Hip and foot bath at bedtime, for a week previous, generally gives relief. If troubled with cold feet, mustard added is beneficial. In some cases, the galvanic stem-pessary has afforded immediate relief. They are worn without trouble or pain if rightly selected and carefully introduced, but can not be worn over a week without removing and cleansing. Careful manipulation is absolutely necessary in using them, and the greatest care in their selection.

During menstruation, the mucous membrane of the uterine cavity is, in all cases, denuded from its walls. In some cases, it is thicker and tougher than in others, and causes more pain. This form is called membranous menstruation. I have seen the entire cast expelled without a break in its structure.

CHAPTER XIII.

THE VARIOUS DISPLACEMENTS OF THE UTERUS, WITH A SEVERE CASE OF ULCERATION.

THERE are few women who dress fashionably who have not some form of displacement. These dislocations, as well as many of its diseases, have all been termed by women, "falling of the womb." There has been little education given women and girls by which they could learn in what particular one form differed from another. These variations affect no two alike. From its structure it is liable to various forms of displacement. These depend, in part, upon the firmness and elasticity of the vagina, which tube is nearly all the support the womb has. It should be strong enough to rebound if from a jar or sudden movement the womb falls. If the womb is too large, or bent upon itself, or too round (like an orange), or if the clothing is too tight and too heavy, the vagina is not usually strong enough to hold it in its right position. It is sometimes found lying across the body, with the mouth toward the bladder and its top toward the rectum.

This is retroversion. By referring to Fig. 36 the womb is seen with its top or fundus lying on and nearly or quite closing the bowel, A. If this posi-

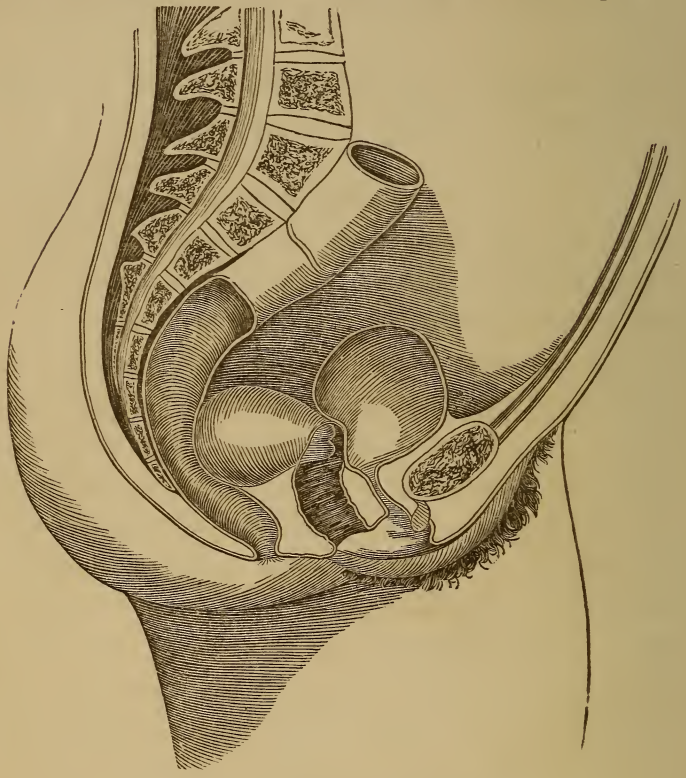


Fig. 36.—Retroversion. Second Degree.

tion is maintained for a long time the stools, which become hard by being too long retained, press upon and bend the organ nearly double.

Retroversion is a simple form of displacement, and if early recognized, can easily be cured. The time it takes to cure any affection of the generative organs depends, first, upon its early recognition; second, upon the co-operation of the patient with the physician (if it is grave enough to consult one); and the condition of the general health. When the back aches across the hips for several days and the bowels are constipated, with frequent desires to go to stool, accompanied by great nervousness, retroversion may be suspected. An examination with the index finger will find the mouth looking toward the bladder, instead of, as in the natural position, toward the rectum. The first thing to correct this is to attend to all the laws for the promotion of the general health. Cure the constipation by eating the right food and drinking large quantities of water, either hot or cool (never ice-cold), half-way between meals. Lie flat upon the face on the floor with the toes drawn up and the arms crossed in front; raise the body upon the elbows and toes, and remain in this position long enough to count twenty-five, holding the body straight, parallel to the floor. This will be impossible at first, but a few trials will strengthen the muscles, and its accomplishment will be easy. Creeping upon the hands and knees

like an infant has cured many without other treatment. Getting out of bed in the morning on the hands first instead of the feet, and creeping a few

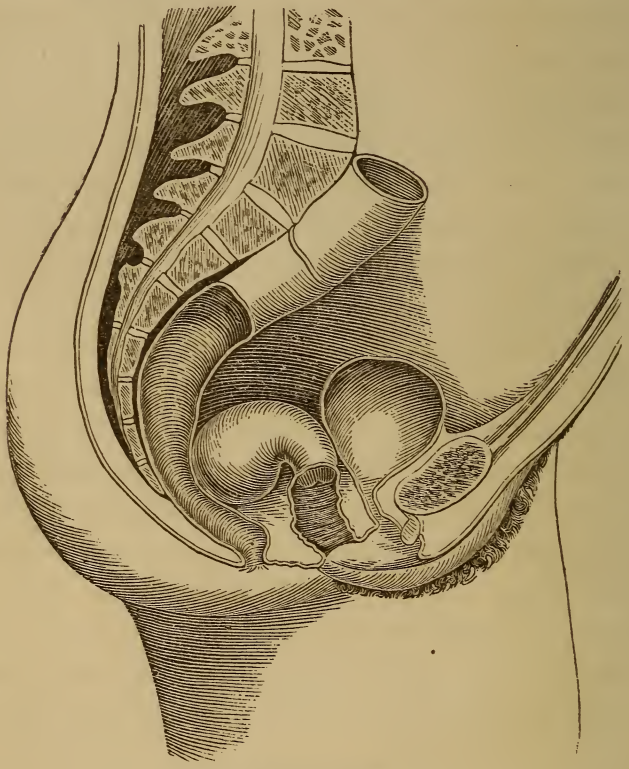


Fig. 37.—Retroflexion.

times across the floor when the muscles are in a relaxed condition, is beneficial.

If retroversion is not cured before it becomes

chronic, many causes beside constipation will almost surely produce retroflexion (Fig. 37).

By studying this figure the vagina is seen shortened, so that most patients can easily feel a large ball behind the mouth of the womb. This is the fundus or top of the womb, and is often lower than the mouth. This form of dislocation is very likely to produce hemorrhoids (piles), and physicians sometimes treat the patient for this trouble, when, if the cause could be removed, they would disappear with no treatment.

Retroflexion is bending the womb in shape like the letter U, and causes great pain at the monthly periods. It is more formidable than retroversion, takes longer to cure, and many times requires the care of a physician who is specially acquainted with flexions and can, without danger of inflammation, which causes adhesions, restore the natural position. The writer has invented and improved a rubber and galvanic stem which some patients not over-sensitive can introduce and cure themselves.

Usually the womb needs preparation by hot injections, and sometimes medication, before this can be tolerated. No force should be used in their introduction, and great care in their selection. After wearing them a few weeks the monthly flow is in-

creased, and, if too much, their use should be discontinued, and a Simpson's hard rubber, same shape, used instead. This can be worn months without removal, if the parts are thoroughly cleansed with syringe daily, while the galvanic stem must be cleansed and its surface made smooth by sandpaper each week.

A CASE OF RETROFLEXION.

A lady suffered from pain in back of head, between her shoulders, and across the small of the back. The whole spine was so sensitive, that disease of it was diagnosed by the family physician. The bowels were constipated; had no natural movements without aid in fifteen years (constipation is rarely found in anteflexion). The heavy fundus lay on the bowel low down, and she often felt like going to stool when there was nothing in the rectum. This repeated straining caused it to be forced at each effort lower in the pelvis and to make the flexion sharper. Small hemorrhoidal tumors protruded with the stools, which made the case appear like hemorrhoids instead of uterine disease. Taking a long walk in the rain one day she took cold, and violent inflammation set in. An adhesion to the rectum was formed, and months of treatment were

required to break it loose and straighten it, so that it was possible to return it to the natural position in the body. Leaning forward when at stool sometimes assists a passage in cases of retroflexion or retroversion. When well she said one day:

"Why have I not known this sooner? I have paid thousands of dollars to get well, when I could have kept well or could have cured myself, had I been taught nature's laws and how God made the body."

More or less leucorrhœa (or whites) usually attends these conditions. It is better it is so, where there is a sub-acute or chronic inflammation, as it partially relieves the over-distended blood-vessels. When the organs are in a healthy state there should be only enough to lubricate the parts, and this should be transparent like the white of an egg. Absolute cleanliness is necessary. This is accomplished by means of a large-sized fountain syringe, and used tri-weekly or oftener as the case requires. Castile soap and water, a little glycerine in water, and clear, tepid water are all that health requires.

By referring to Fig. 38, the reader will find the fundus of the womb instead of its mouth against the bladder. This is anteversion, and the sufferings of the patient will be mostly in front, although

all the pelvic organs sympathize when one is diseased. The bladder can not retain as much water, and a desire to urinate frequently is often present. Lying upon the back and kneading the body low

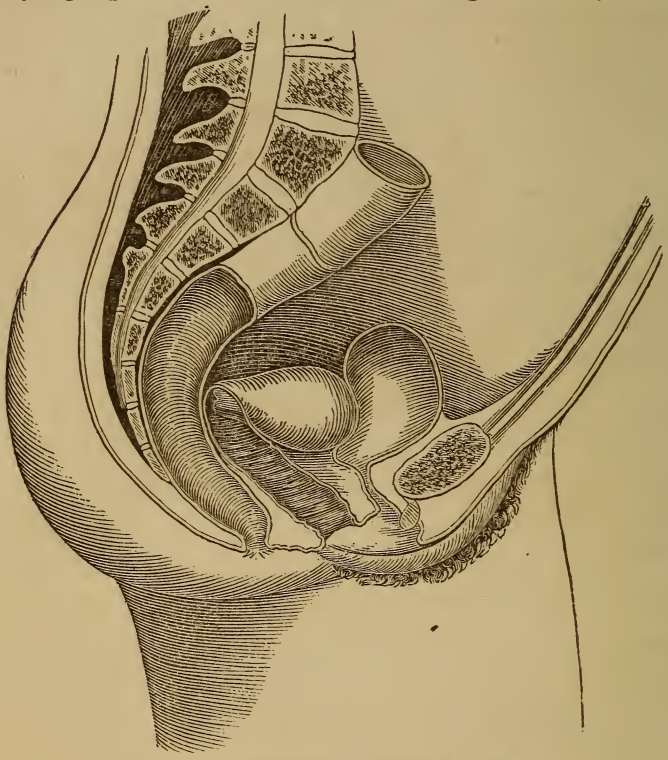


Fig. 38.—Anteversion. Second Degree.

down vigorously, standing on the elbows and toes as before directed and walking with the bladder partly filled, if no pain follows, helps restore this

condition. Rubbing, or massage, is a powerful means of restoring the health, and should always be used intelligently.

Anteversion does not necessarily cause pain at the monthly periods, but if not cured it becomes bent or flexed, and is the most formidable, and

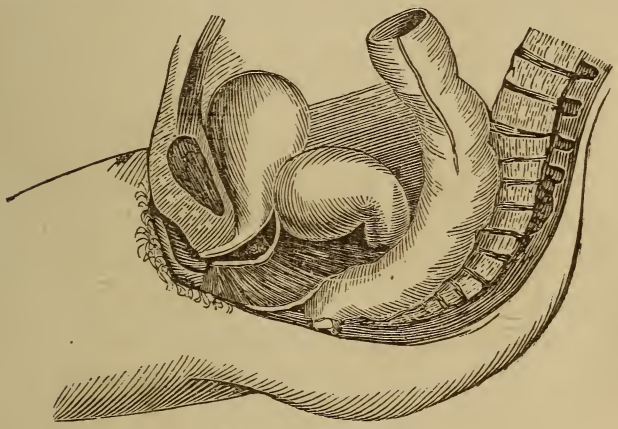


Fig. 39.—ANTEFLEXION.

more difficult to cure than any form of dislocation. The sufferings are in many cases worse than those of parturition.

ANTEFLEXION.

One case will illustrate anteflexion. Miss ——— began to menstruate at fourteen. When the monthlies appeared, they were attended with so much pain in the region of the bladder, and running

down the front of the legs, sickness of the stomach, and extreme nervousness, that she went into convulsions. This state of things increased year after year, until the family affairs were regulated to give the entire time to caring for her at these periods. They had continued seven years when the writer first saw her, and had become so formidable that paralysis of one-half the body at the last sickness had dispelled all hope of cure. The attending physician told her father she must die at the next return. Not one of the score of doctors who had attended her had found the cause of her sufferings. The womb was twisted on itself like an old-fashioned friedcake. The menstrual fluid coagulated in the cavity, making its escape through the crooked canal impossible. During a convulsion, or while vomiting, a few drops would pass, but most of it was returned by absorption into the circulation and surrounding tissues. The skin became sallow; dark mothy spots appeared on the face, with pimples which covered her entire body. At twenty-one years of age she looked thirty-five. By dilating this twisted and indurated womb very carefully with small sponge tents a week before her expected sickness, she passed through the first painless monthly of her life. A few months of subsequent treat-

ment, which consisted in holding the organ straight with a carefully selected rubber stem, and teaching

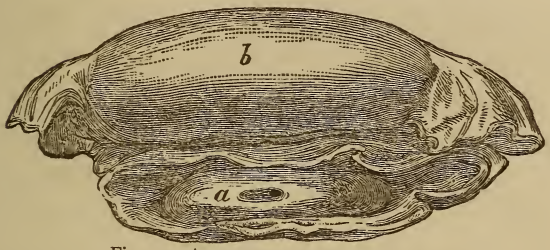


Fig 40.—Anteflexion. Natural Size.

a. Mouth of the womb, or os uteri. *b*. The fundus, or top, both looking forward.

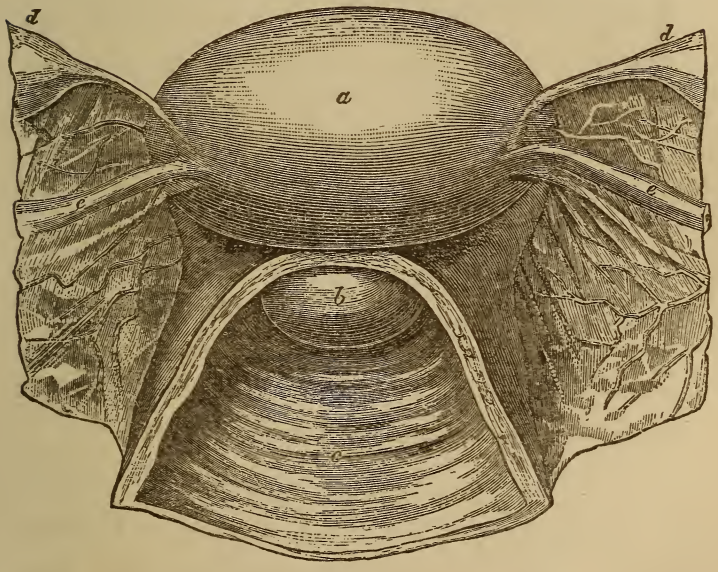


Fig. 41.

a. Fundus. *b*. Vaginal portion, both looking forward. *c*. Vagina. *d*, *d* The Ovaries. *e*, *e*. Fallopian tubes.

her nature's laws upon which health depends, resulted in a perfect cure. It is now eight years, and she has had no return of her troubles. Hundreds of cases have been, and can be cured without local interference, and would be more frequently if girls understood the first symptoms of displacements, or the direction of them. There are three varieties of anteflexion.

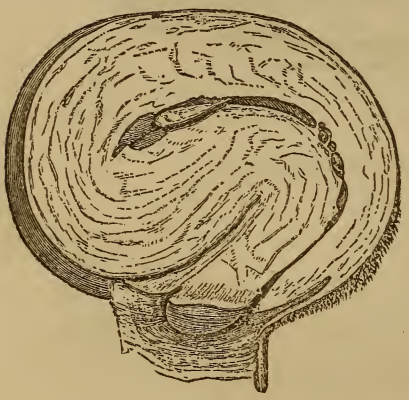


Fig. 42.

A section made through the center of an anteflexed uterus, with enlarged anterior and shrunken posterior lip of uterus, showing places of atresia, or complete closure of the canal, rendering menstruation impossible. (Easily cured.)

By studying Figs. 39, 40, 41, 42, it can easily be seen why such sufferings attend the various flexions of the womb, and the importance of removing every ounce of weight from the hips and abdomen comprehended.*

ULCERATION OF THE WOMB.

When there is a profuse discharge of yellow matter from the vagina, sometimes with heat,

* For confirmation, the patient above referred to is willing to correspond with any one so desiring,

frequently without pain, exhaustion, emaciation, nausea, etc., ulceration may be suspected. These conditions rarely come on suddenly, but are months and sometimes years in being established, so that its nature is not early understood. The counsel of a lady physician, if possible; if not, one of experience, should be consulted. If the vagina is kept scrupulously clean, it aids much in averting, also in curing this malady. There are many cases of catarrh of the womb induced by too long walks, taking cold, round dances, etc. After a few weeks of rest and care, with attention to all the directions for preserving the health, if it still continues, counsel should be had. In severe cases of ulceration the womb is usually prolapsed, and occasions a feeling of great weight low down. Rest upon the side, with one arm thrown back under the body, and drawing the knee of the upper leg up to the chin, and the under leg straight. This relieves the large blood-vessels of the weight, and gives rest. Lie on both sides alike, else the weak womb will gravitate to one side.

In speaking of leucorrhœa, or whites, in connection with an inflamed womb, I said it was better to have a discharge than a constant hardening, which might occur without it. This should not lead any

woman who has this affection to neglect an examination, and to know what the discharge comes

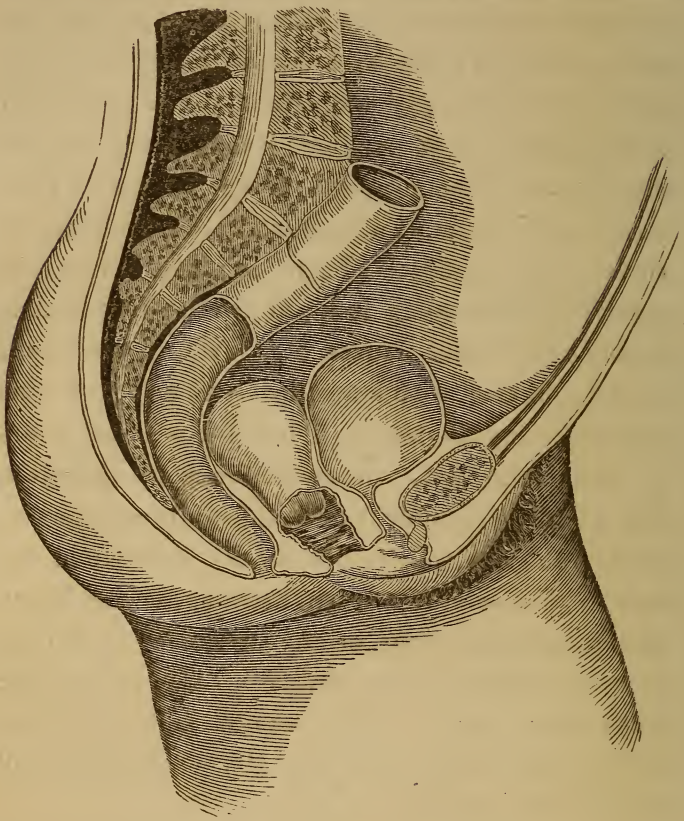


Fig. 43.—Prolapsed Uterus.

from, and what the nature of it is. If it comes from ulceration of the mouth, or internal surface of the uterus, or from the vagina, delay sometimes

renders them incurable, or adhesions are formed which affect the health all through life.

I will relate a case of severe ulceration, which came under my personal observation. A little knowledge of the conditions would have saved a lovely Christian lady from years of horrible suffering, and her family the sorrow of witnessing it. Forty years ago, before physicians made treatment of the womb a part of their practice, a woman whom the writer knew had during gestation a profuse bloody leucorrhœa. At seven months the ulcerated mouth (which no one suspected) could not retain the fœtus, and it was prematurely born. She had during the pregnancy several times of flooding, when miscarriage was threatened, but by great care was averted. Labor set in with flooding, and her life hung by such a feeble thread that the physicians made no attempt to remove the placenta, knowing it would prove fatal. Strange as it may seem, seventeen days after, it came away, and no discharge, such as is natural (lochia), was seen ever after. Her legs were swollen to her hips, and at eighteen years of age the writer learned to put on a bandage (roller), and for six months attended them daily, winding the roller from the toes to the hips to keep the skin from bursting. After two

years she was able to bear her weight upon her feet, and what are called milk ulcers appeared on her legs. She thought if these were cured she should be well, and a quack doctor applied some liniment, which drove them away. Immediately pains like the monthly began to appear. The abdomen enlarged, and this condition of things increased ten years, the pain much of the time being greater than labor pains. At this time she was fifty years of age, the time for the monthlies to cease. The size of the body was as large as if she had twins at full term; her appetite had been good, but she was a skeleton. Now these horrible pains ceased, she gained flesh, could walk about her house, and was as well as she could be, aside from carrying this large tumor, as many physicians had called the enlarged abdomen. At the age of fifty-two she was doing some work in the pantry, and the grown-up mouth of the womb, which had been sealed up from adhesion caused by ulceration twelve years, gave way, and as near as could be estimated three gallons of thick, dark, odorless substance passed away. Her health did not suffer from the escape of this, but for prudence' sake she kept her bed a few weeks, and lived twenty years after in the enjoyment of health. Had she yielded to the advice

of many physicians, and had an operation for the removal of a tumor, it would have proved fatal. Knowledge of herself would have saved these years of agony, and her family the suffering of witnessing it. When ulceration is suspected, the patient should avoid heating the blood, violent exercise, and stimulating food. She should use injections of hot water two or three times daily. The itching and irritation which the discharge causes are often cured by washing frequently with baking-soda, one teaspoonful to a pint for injection.

CHAPTER XIV.

ON MARRIAGE AND MATERNITY.

CARPENTER, in his "Principles of Physiology," says: "Considering the number of idiots and deformed children of such, there is sufficient cause to avoid intermarriage among relatives. Other causes, however, produce these results: ill health, abused amativeness, wrong living, disproportionate ages, and a low quality of brain." Men who are desiring a wife should avoid women who have not noble characteristics, and a high regard for parents; they should avoid small waists, whether natural or not; they insure sickness, premature decay, and death. Women should not seek those men who are unkind to mothers or sisters; they never make good, kind husbands. Neither should they marry strangers. A woman is usually safe in selecting a husband if he venerates age, and is devoted to his mother and sisters. We quote from Charles Lamb: "In comparing modern with ancient manners, men are pleased to think that upon the point of gallantry they are

supposed to pay more respect to females, as such, than in former times." Charles Lamb says he shall believe it when half of the drudgery and coarse servitude of the world is not performed by women. He calls this boasted point a conventional fiction; a pageant got up between the sexes in a certain rank, and at a certain time in life, in which both find their account equally. He thinks this fiction may prove salutary when the same attention is paid to age as to youth; to homely as to handsome women; to the woman as she is a woman, not to a beauty, a fortune, or a title. He says, "I shall believe it is something more than a name when a well-dressed gentleman in a well-dressed company can advert to the topic of old age in woman without exciting and intending to excite a sneer." In speaking of a friend who influenced his early youth, and, as he views it, made him what and all he ever was, he says: "This man had not one system of attention to women in the drawing-room, and another in the shop, or stall. He never lost sight of sex, or viewed it as a disadvantageous situation. He would stand bareheaded, and smile to a poor servant-girl who stopped him to inquire her way on the street. He was a pure man, and reverenced womanhood. This man was the chevalier of age to

those who had none to defend them. Roses long faded still bloomed for him in the withered and yellow cheeks of age. What we need to-day in this country is consistent gallantry," — when we no longer witness in the same man a pattern of true politeness to his wife, and cold contempt or rudeness to a sister, or to his aunt, and idolatry to his mistress. "Just so much respect as a woman derogates from her own sex, in whatever condition placed, her maid or dependent, she deserves to have diminished from herself on that score, and probably will feel the diminution when youth and beauty shall lose their attraction."

What a woman should demand of a man in courtship, or after it, is: first, respect for her as a woman; and next, to be respected by him above all other women, and reverence for her sex.

"The true object of matrimony, and the only one to be entertained, is the perfection of existence that comes of a physiological union; and the propagation of offspring that helps make that union complete, and is the combining of all which perfects love, intensifies happiness, and makes life worth living."

Perfect love is of God, and can not exist in a body foul with tobacco and strong drink.

Men need not fear that women can learn too much. The present fashion of considering the education of girls complete without a knowledge of the details of housekeeping and cooking, is fraught with incalculable evil to the family. It is possible for a lady to cook a good meal, and play a gem on the piano; to make a shirt, and speak German or French. If it is not necessary for her to do it, she can with judgment direct their being done. Neither would mothers fear (if their daughters were educated properly in these branches) should they be left dependent upon untrustworthy or incompetent servants. Soft hands would lose none of their charms by an occasional bath in dish-water. Useful occupation is better for the health and comfort of every individual, and many frail girls, by means of it, would have made finer specimens of womanhood. Fear of spoiling beautiful hands has made invalids of thousands of girls. Beauty will not, in the end, take the place of solid worth. "A husband or wife should be chosen through the intellect; it is almost impossible to choose one who approximates to our standard of character in all its details, but if such choice can be made, perfect love results as naturally and harmoniously as do all the workings of nature's laws,

and this love grows stronger and purer all the days and years of life."

Selfish animal love is widely different from that which comes of a perfect union of soul with soul; this is pure and holy. The disregard of this law of choice is the foundation of most domestic unhappiness.

True and unaffected love is necessary for the development of perfect children. Filial love is rarely found except in those children who were knowingly, earnestly, and lovingly desired by their parents. Children born under such conditions can not help loving each other.

Love at first sight exercises only one faculty of the mind, and seldom outlasts the honeymoon.

Although riches and pedigree are sought after by men, young ladies whose wants are not exorbitant, with brains and muscles well developed and disciplined, would, if they could be found, take precedence with intelligent men who are worth marrying, and who would not, as many do in these extravagant days, tremble in view of matrimony. If fathers would, in giving their daughters in marriage, be as carefully guarded in regard to physical taint and pedigree, as cattle-breeders are in selecting their stock, they would look with as much

pride upon their grandchildren as the other does upon the beauty and purity of his stock; and there would be fewer sickly and feeble-minded children upon whom thousands of dollars are yearly spent "to buy a capacity."

An assurance of health is the first thing to be looked after when contemplating marriage; then the happiness of families is much more likely to be secured.

If we believe, as Raphael did, that nature produces principles only, not objects in their perfection, we shall attach greater value to the instruments she has given us to work with. We see constantly that nature can be remodeled, and thereby superior objects of their kind produced.

"Almost everything that grows is subject to amendment. Man has adjusted the conditions and aided nature in her work, and she has always rewarded him bountifully for his help. He will find in the use of his own powers, in helping to adjust conditions, a provision for his own improvement and happiness. To do this work well requires a knowledge of her laws; and although they may sometimes seem capricious, he will find them as immutable as the great Lawgiver himself. It is to

the constant varying of conditions, and not to laws, that we must attribute nature's caprices."

If mothers can adjust the conditions in which to develop the immortal soul of a human being, is she not an artist on the very highest pinnacle of artdom? Inasmuch as soul and spirit are superior to matter, so far above all artists does she fill and hold her holy office. Has she not more power and opportunity to mend humanity than all reformers put together? Why has poor humanity cried out so long to be mended? The ways and means multiply without improvement. "Knowledge comes, but wisdom lingers."

There is a large army whose business it is to attend to our physical ills; are we as a race healthier and stronger? Mortality is not quite as great, but we have not one less disease to contend with. After centuries of patching, does not the fabric grow weaker? Diseases and the laws governing them are beginning to be understood, but do they attend to the conditions of prevention? And so the patching goes on. The schools can mend in many ways, but would turn out a much stronger mental and moral growth if they had a better quality of brain for ideas and thoughts to grow in. How

many failures are yearly graduated at our academies and colleges, because of a lack of common-sense. "Mankind are what their mothers make them." When each comes forth from his mother's womb, the "gate of gifts" is closed behind him. It is to the mothers of the race that we are to look for amendments. It is for them to make what nature attempts, and but rarely succeeds because hampered by unfavorable conditions. Can she supply the deficiencies, and make a perfect being, when there are weak or diseased parents? Culture can never succeed in uprooting the sins of generations; it is the scythe that shaves the lawn, but leaves the roots of the weeds among the flowers. Not that I underrate culture, but we want natural ability and purity of structure.

"God shines into humanity through the mother-medium. The power to grow fruit does not give it taste and sweetness: something more is required of a perfect mother; she must stand guard over the building of the temple, God's foreman in the work, and see that the best conditions are brought to bear on nature's laws. She is no higher than the brute creation if she does not employ her intellect. Providence does not design monstrosities. The mother's influence upon her unborn child, and

through it upon society, church, and state, is immeasurably great; but how utterly is this great truth ignored by mankind, and by mothers particularly."

The true way to purge the State of its political rottenness and elevate society, is to fit woman, by mental, moral, and physical training, to compass and fill the responsibilities of mothers.

Constitutional tendencies to evil are as great as those of disease. "Inasmuch as diseases of the body are transmitted in impregnation, and become parts of our individuality, so are mental infirmities transmitted, and become parts of our individuality." When we reflect that the most trifling act of the mother may stamp itself indelibly upon the character of her child, "that every thought may be a chisel, to cut for good or ill upon the statue of a soul, how great appears her responsibility." "On the boundaries of this life, embryo forms wait with open lips at the breast of every mother; and whether they draw nourishment from a pure or impure source, will sooner or later appear. The great want that is throbbing in the world's yearning cry must be met and supplied here." Instead of being hero-worshipers, and holding in such religious veneration the ideas of our ancestors, let us wage war with the

weaknesses and impurities of this race, and try to exterminate them. All honor to those who have won great achievements and made great discoveries. Now, in turn, let us transmit the record of noble work done to our children, who stand on vantage ground, and ought to grasp with ease thoughts and attainments which have taken our lifetime to compass, leaving them no prejudices to limit their usefulness or poison their lives.

CHAPTER XV.

CASES AND TREATMENT OF INSANE WOMEN.

THE physicians of insane asylums tell me that by far the greatest number of the inmates among women suffer from nervous irritability, and more violent attacks of insanity when the monthly is present. In a majority of cases, womb disease is the direct cause of their incarceration in these prison walls.

Irregularity in the circulation, palpitation of the heart, as well as disorders of the stomach and bowels, accompany this condition. Many sufferings attendant upon it may be averted by following strictly the rules for the improvement of the general health.

Male doctors can not, in the nature of things, understand the secrets of a woman's life. She can not, nor would he understand her if she could, delineate all her sensations, her longings, her abuses, and sexual depletions. Her agony rankles and

eats into her soul all the more because she has no ear but God's, and He seems afar off. It is natural that woman, with woman's instinct, should see at a glance what science has not seen, and can never find out, in regard to the mental and sexual conditions of woman's nature. The sexual system is by far the most important in her whole being, and she is as ignorant of it, and the havoc it plays with her health, as the inhabitants of the earth before the flood were of telegraphy. To dispel this ignorance, and save the race from its degradation, is the duty of women who have means and leisure. It is especially the duty of women physicians to labor early and late, in season and out, to help on this work, which will, when complete, help usher in the millennium.

It would astonish the community if they knew the number of women in our land to-day who are laboring under deep sorrow and mental depression from uterine diseases. Some who come to me for help seem to be borne up by superhuman strength; but this nervous force, held at such tension, is liable to break any hour. Then reason totters, and often loses its balance, irrecoverable in a life which is, in reality, a living death. These helpless women do not need bolts and bars to imprison them, but hos-

pitals for rest, and women's skilled hands, wise heads, tender care, and sympathizing hearts, to lift them up and cure them. As asylums are now conducted, all hope is cut off in many cases, and large numbers go to early graves who might have enjoyed the blessings of life to old age.

To show better than words of mine can do, the needs of women physicians in prisons, jails, hospitals, and most of all in insane asylums, I will quote from a letter of a patient who has spent many months in one of the (so called) best institutions in the United States, 1871. She writes: "Who are the insane in our asylums? Let one who has been behind the bars, among the spirits in prison, answer. They are a class of unfortunates upon whom the world drops the pitying mantle of silence. Let the most profound scholar, the most brilliant literary man or woman, the most gifted artist, once enter an insane asylum as an inmate: they are as dead to the outside world as if already sleeping their last long sleep in the bosom of mother earth. Sometimes a whisper concerning the once admired among their acquaintances, comes to their friends, leaving an impression of horror.

"Let us enter, and pass through the wards which are open to visitors, in one of these State institu-

tions, where the insane pauper may find an asylum, and the rich, if they please, can place under lock and key the skeleton of their household. In glancing over twenty or thirty patients within sight, the eye is arrested by a queenly-looking woman between forty and fifty years of age; she is tall and stately, with iron-gray hair, the softest and most loving eyes, and traces of what must once have been great beauty. When addressed, she answers with a gentle courtesy, which is more the result of natural grace of manner than of worldly polish. She has spent most of her life in insane asylums. You wonder at seeing her among the inmates, and are told that she is subject to fits of frenzy, but is usually as you see her. She is remarkably well informed upon all the leading questions of the day, religion, science, and State craft; she has a great fondness for geology, but says she has no dictionary, and can not satisfactorily pursue its study. Sometimes she gazes long and silently into vacancy, and then comes and lays her head in your lap, and asks if want of pleasure does not shorten life? She looks after the home-sick stranger, and sadly remarks that woman must have something to love. Sometimes, you hear from her lips a telling shaft of wit, in reply to the assumptions of

some pompous Pharisee among the governors. She is at the beck and call of inferiors, mentally and morally; poor woman, she deserves a better fate.

"Another fragile, fairy-like creature calls for your pity, whose anxiety about the souls of her children has made her a monomaniac. On the floor is one who is sobbing and bemoaning her fate. She will talk rationally and tell you of her mother who was paralyzed, and that the care of her broke down her nervous system and shattered her health—after her mother's death she was left alone and penniless to fight the battle of life.

"In another ward, lying upon the floor crying and chattering like a parrot, is a beautiful girl of seventeen, once the pride of her parents and the boast of her classmates in the public school. Under the high pressure which is used in most of these schools her nerves gave way, and she, bereft of reason, lingers still within the walls of this asylum (a better name is prison).

"Would it not seem that the State which supports these institutions would have a State Board of Charities, which should provide all the comforts and aids to restore reason and improve the health? Such is not the case. The United States is far behind the times in making the inmates of these in-

stitutions feel that they are cared for with a view to help and cure, or at least to make their lives tolerable.

"Nothing is done to cure insanity in these places, so far as I know. The food is left to be distributed by unprincipled officials, when there should be a law by which intelligent physicians might select what was appropriate for each patient. At meals strangers are allowed to be present in London asylums. No class of patients need more care in diet, and yet this is sadly and wickedly neglected in America. Next to this is fresh air. Those who are too weak to walk should be taken out in carriages, for they all have a feverish desire for motion. They should have fewer bolts and bars, fewer strait-jackets, and more fresh air and diversion. It is cheaper to cure and send them home than to keep them at the expense of the public. I was the only favored patient among the six hundred. I was allowed to lie in my bed when not able to sit up; all others not entirely helpless were made to lie upon the floor. There was no infirmary, no nurses, except attendants, who were ignorant, common girls, with plenty of hard work to do. When a patient was sick in bed, as I was for weeks, she had to depend on kind-hearted patients for all the little

services she needed. The matron was the actual head of the asylum; her husband seemed greatly under her influence, and their power was unlimited. By blood and brogue, religion and temperament, she was an Irish Roman Catholic; an attendant in the institution when her husband married her, and as ignorant as the average servant-girl. She was hard, cruel, deceitful, and intriguing. She was a good cook, and provided a bountiful table for the officials. When my husband visited me we were invited to sit at their table; everything was bountifully supplied at the expense of the State; but I ate with a choking sensation in my throat, for I remembered the scores of sick people all over the house to whom a tithe of these delicacies would have been a boon. The matron hired and dismissed all help, and the patients were helpless in her hands, and she was loathed and feared by all except the spies who were kept in each ward and room in the house.

"There were two good physicians in the house, but they were in the power of this woman's husband, and he in hers. No State Board of Charities disturbed the machinations of the head physician and his wife; no voice of complaint ever reached the friends of the patient. All letters were in-

spected, and none which did not eulogize the management was allowed to reach the outside world. I experienced roughness at first, before they knew I had influence with the Governor of the State, he being a relative. When this was known, they were at my service, and I was treated like a queen. But I have been behind the scenes; I know of what I write. Unconscious of the espionage upon letters, I wrote my husband of some rudeness and other improprieties taken. Week after week came and went, and no news from me. At last my husband came and found me sick in bed. He had received none of my letters. The doctor told him he had kept them to study up my case, and, through my husband's influence, I was thereafter treated well. I had been pronounced perfectly sane for some time; but I felt indignant at being sent there, and determined to stay and see how poor people without friends were treated. I had free access to all the female wards. I soon found that the Roman Catholics had control. The matron had spies—strong, healthy women—who did nothing but report to her the sayings and doings all over the house. Other patients who were sickly were driven to the laundry to wash, iron, and scrub; while the State kept these lazy women, who never

left the ward. It was believed by many that medicines were given to hurry the patients out of life. Of this I can not speak, but I have my thoughts, however. At one time the lovely woman I first mentioned warned me about my food, and told me not to taste it until the girls who brought it to me had. This put them on guard, and my food was not poisoned.

"These poor people desired prayers and music and religious services. There were no Bibles for them; no chapel; but the servants' dancing hall was used as such. I read from the Book of Common Prayer, and they received it joyfully.

"I also in great earnestness present my plea for women physicians to be employed in all insane asylums in our land. If every man and woman in the country knew what I know, but can not write, no man, especially no unmarried man, would be allowed entrance into the female wards of an insane asylum. They should be managed and attended by women only. In these days there are plenty who by professional skill, ability, and attainment are thoroughly qualified to take charge of this class of persons. A woman's hand first lifted the cloud from me; a woman's intellect first discovered the cause of my malady and the mental

troubles which grew out of it, and, from that hour, my faith in women physicians for women's peculiar diseases has been unswerving. Man's commanding intellect should be at the head, but over these irresponsible women the guardianship of woman's heart and conscience must preside. If by my tongue or pen I can do anything to bring about the result I shall not have lived and suffered in vain.

"It passes my comprehension that the common-sense of mankind has not long ago revolted at the practice of placing irresponsible women in the exclusive guardianship of men, away from the protection of their natural guardians — their husbands, fathers, and brothers. These otherwise sensible people hand over to the officials of an insane asylum these dearest treasures body and soul. If through heaven's mercy she fall into good hands, well and good; but if an unprincipled physician holds the key to her chamber door, may God have mercy on her. She is looked upon as a maniac, and her testimony is of no avail. I know many who are incarcerated there who have sounder reason than those who have charge of them.

"I have written strongly because I feel deeply,

and I believe that if the subject could be brought up at the societies of medical men, there would be found enough good ones to make this most needed change. If the American people would guard the purity of their homes, they must watch over their public institutions. The shaft is liable to fall on any family, and the people must look to the prevention of such monstrous outrage and cruelty. A State board of charities would help, and public men and women of means and leisure can not without sin remain indifferent to this subject." (Written by the patient.)

When we consider the great number of overworked and sick women who, all over our beautiful land, are liable any day to break down, and fall into the hands of these people, this sad story does not seem overdrawn or exaggerated. This woman has told the unvarnished truth, and it should be heeded by all. There should be united effort to make these asylums into hospitals for rest, and provided with means of cure, and all comforts to solace their diseased minds, as well as their bodies.

When woman is educated in all the details of her physical structure, and when ill, studies the causes; when she labors understandingly to perfect her own

body and those of her children, she will be free from bondage to custom, free from bondage to invalidism in most cases, and from insane asylums, whose modes of treatment, however well intended and provided for by the State, sometimes make mild cases hopeless.

CHAPTER XVI.

CHILDREN'S RIGHTS.

EVERY child which comes into the world has a right to be well born; by this I mean it has a right to the best conditions, physical, mental, and moral, that it is in the power of the parents to secure. Without this the child is defrauded of its rights.

"Centuries of preparation fitted the earth for our occupancy, thus hinting at the grandeur of our destiny, and suggesting that in an event of such magnitude as the incarnation of a soul prevision should be made, and the best conditions secured to insure a harmonious and happy result."

Good health, good spirits, sound morality, and reverent love should form the basis of every new life that is invoked.

Mothers have no excuse for petulance and non-exercise of self-control, and those who indulge them need not be surprised if they reap a harvest of their own sowing.

Children have a right to be taught obedience. It

is comparatively easy to submit to what we know is inevitable, and to the little child the requirement of the parent should be law without appeal. Children should not be tempted to disobedience by too many laws, or too much watching for imperfections. The fewer requirements made, the less care is needed to see that they are fulfilled. Before the child is two years old, a habit of obedience should be formed. The child has a right to employment, and the free use of its faculties. Many a little prisoner cries for something to do in homes furnished too luxuriously for play-houses, and among grown-up people who can not bear a noise. We often hear parents tell children to sit down and keep quiet; or to be little men or women. In a few years, at most, the freedom and employment they now seek and need will, in all probability, be directed in ways of sin, bringing more sorrow to the parents when they can not as well bear it. It would be far better to deny themselves the unsatisfactory pleasures of society, and study the needs of their offspring, and how to direct the force which impels them.

A child has a right to ask questions, and to be fairly answered, not misled, snubbed, or ignored. It has a right to be taught everything which it de-

sires to learn. There are so many restrictions to childish impulses that natural development is looked for almost in vain. When brought into new places, and surrounded by strangé objects, they should be instructed in regard to each, instead of being told not to touch, nor to ask questions. My heart has often been pained at seeing children punished, for want of thought in preventing temptation on the part of parents.

It is well enough occasionally to dress children for callers, and make them see strangers in the drawing-room, but they should not be compelled to kiss them, or to be taken in arms by them, against their inclinations. This is a punishment for most children, and might with benefit be made to atone for some misdemeanor. To be made to sit still, in a high-chair, and not allowed to handle things, to behave like grown-up people for half an hour, is sufficient penance for grave misdemeanor, even for grown people. Those who really care to see children would much prefer to see them at their play in the nursery, where they are free to romp, and to act naturally. Children have a right to be taught politeness and reverence. The old fashion of compelling children to make obeisance to all passers-by, and to all whom they chanced to

meet was far more beneficial than the present way of allowing them to form such habits of indifference. Want of respect to the aged is a sure mark of low breeding.

Children have a right to be protected by the State from contamination in poor-houses and prisons, and from vicious parents. They have rights of protection from temptation; to be kept from criminal companions, from vice, and from scenes which can but demoralize; also from the vastly increasing number of obscene books which flood the country. The helplessness of poor children is a plea for their removal from basements and alleys, from the dark and lonely cellars in which many of them are born, where they take in crime with their breath, and where the sweet, purifying air of heaven never enters. The State can well afford to adopt and educate all such children; this in most cases will incur a healthy growth, which will so crush out the deeply-rooted weeds of vice that they will not spring up and bear fruit in lives of sin and shame. Some mothers think it wrong to exhibit models and diagrams of all the organs of the body to youth and children from ten years of age and upwards. This is either ignorance or false delicacy. Any attempt at concealment increases

their curiosity, and desire to gratify it unobserved. The best way is to observe no secrecy, but to teach God's idea of making the entire body. Children should be taught reserve, but not to parents. It is cruel and wicked to have questions from an innocent and confiding child answered by falsehood from the mother. It may be at the time of evening prayer, when the imagination has free play, rather than when surrounded by the diversions of the day, that the confiding one asks: "How did God make me?" and his fond mother perhaps tells half a dozen lies, and then kneels down and prays that her child may be truthful. She need not tell falsehood, if she can not tell all the truth, but promise as soon as he can understand, or when it is best for him to know, to tell all. The most important thing a mother can do is to establish a confidence between herself and child, which can not by any after-education be destroyed; then he will always seek her, instead of his associates, for the knowledge which she only is prepared to give.

A young French woman took her twin boys, ten years of age, to see a manikin, which, when dissected, represented twins in the womb. When the lecturer came to this part of the manikin, she passed it by; but the little mother said, "Why,

this is just what I brought them to see, that they may know how they grew together in my body, like birds in a nest; then I'm sure they never will quarrel, and will worship me." The lecturer took each infant in turn from its baby home, and showed the little wonderers how, when the right time came, they followed each other into the world; and who thinks it could harm those boys?

A little ten-year-old girl came running to her mother, who was expecting a new baby, and said: "A little girl told me I was going to have a little sister, and I told her it was a lie; if my mother was going to have a new baby she would tell me, and she has never said a word about it." The mother thought, "If I deceive my child now, she will never again have confidence in me," and she took her to her bureau, and showed her the wardrobe prepared for the little stranger, and asked her if she desired to add anything; this satisfied the child, who never spoke of it, except to her mother, to whom she was devoted with a fidelity before unknown. This is the best way to cure the sensual appetite, and refine the character. "To the pure all things are pure."

When women are not ashamed of God's work,

the world will become exalted, above our present attainment in morals.

The sexual appetite is often developed as early as eight or nine years; this leads the little innocents into practices which the watchful care of the mother will have difficult work to find out. Mothers think, and often wrongly, that their children are ignorant on such subjects. A lady once told me she was going to surprise her little nine-year-old daughter; and when she told her she had a present for her, and it was a brother, the child said: "Oh! I've been expecting it a long time; I have a name all ready for him." She felt she had deprived herself and her little daughter of many happy hours by not confiding in her. There was no surprise when told it was a part of both father and mother, and that she must ask no questions until older; that it was a subject very hard for all to comprehend; but like the trees and grass, was part of God's work. This was so impressed upon her mind that she never spoke of it to her afterward. If mothers begin early, they will find it much easier than to wait until this thirst for knowledge has been filled at other fountains, and habits acquired that not only ruin the health, but some-

times undermine the reason. According to the latest statistics, one-third of the inmates of insane asylums are addicted to secret vice. Mothers should not allow their children to go from home to boarding-school, under any pretext, before they are educated in these particulars; if they do, the sin and the consequences lie at their own door.

CHAPTER XVII.

DUTIES OF WOMEN.

THE most important duty of a true mother is to look well to her own health. In her anxiety for her loved ones it is not uncommon to put herself in the background, while she manifests the greatest watchfulness and solicitude for her husband and children. Sometimes these anxieties are not appreciated by those who truly love her, and for whom she sacrifices her rest and sleep; in some instances they learn to accept and expect services which they ought to render to her. It has sometimes happened that over-anxiety to please on the mother's part has created a selfish demand in those who have unconsciously grown to expect sacrifices from her; and when her strength fails she finds the demands continue, and *too late* that she has been guided by maternal impulses, not by reason. Often a stage of indecision follows such a revelation. She is amazed that mother-care is not *always* productive of reverence and obedience from her chil-

dren, and of constancy and tender care from her husband. If she be mentally equal to the emergency she will not waste her time in useless weeping, but will set her sails so that she may steer her bark clear of the rocks of indifference or the whirlpool of grief. Tears and heartaches will not better things. She should study the best and wisest way to retrace her steps, and do her duty without suffering if the heavens fall, then rest her soul in peace and enjoy the gifts of God in her home and in society. She will then grow strong mentally and physically.

There are some men who think their wives as frail as porcelain, and will not allow them sufficient exercise to keep the blood circulating or the muscles strong. I have known robust and healthy girls metamorphosed into the weakest and most helpless women from this over-indulgence. Servants are made to do the most trifling things, which would keep the muscles and health of the mistress in good condition if she were allowed to do them, and tend to make her after-life complete. Ignorance of nature's laws lies at the root of this, and when women themselves learn and heed these laws, they will have less need of doctors and enjoy more happiness. When wealth is given it need not prove, as it does

in many instances, the cause of degeneracy of the mind and bodies of women. All useful work is laid aside for light reading, the opera, or anything to kill time. Instead of seeking out the children of poverty who are always near (many of whom are the salt of the earth), and trying to lift them to their best estate, these grand dames pass by on the other side, shutting their eyes to real life around them. The avenues to the heart are closed, and, before they are aware, the tenderest and most loving souls become totally indifferent. If selfishness alone actuated women of means and leisure they would keep their sympathies warm toward the poor and their own health firm by giving a portion of each day to ministering to them.

It is the duty of every woman before marriage to learn sufficient physiology, anatomy, and hygiene to keep herself and family well under ordinary circumstances. She should know how to make plain garments and to mend; to arrange and keep a house in order; to cook and economize; how to divide her time so that each day a portion of it may be given to self-culture. In this way the Duchess of Orleans secured a state of self-preservation which made her the envy of many who had not the sense to follow her example. To have all the

organs healthy and doing their work as faithfully as the postman brings our letters leaves our minds free; we can then enjoy God's gifts in the air and sunshine, and the society of our friends, and feel (a glorious state of mind) that we are not a burden to them.

There are many women at this moment sending a wailing cry to heaven for health and strength who could have it by discharging half their help and engaging for two or three hours each day in real, old-fashioned housework. What women need is a knowledge of themselves and of their own power to execute plans; to invent and carry to completion devices to aid all manner of domestic machinery; to discipline all their powers into a state of readiness for the every-day affairs of life. If this education begin early it will save an enormous amount of time in maturing and carrying out plans.

Men, as a rule, continue to grow all their lives; while the monotony of woman's life, unless she is on the alert for wisdom and improves all her resources, causes her to settle into humdrum and commonplace. She is often made to feel, after ten or twenty years of married life, inferior to her husband. At marriage she was his equal, and would have kept pace with him could she have had his

advantages. I have known men hard to please after a few months or years of married life—this is more apt to be the case if the wife is an invalid. He does not mean to be unreasonable or find fault, but when he comes from his business and sees an anxious or tired wife, with the house neglected, as it often must be among farmers and working people, he looks disappointed. His wife detects his state of mind, and tears stream down her pale cheeks. He goes out of her presence, for men dislike to see women in tears. Each repetition of such misunderstanding and disappointment weakens the restraint he puts upon his words, and by and by he complains and finds fault, until either the spirit of his wife is broken or she rouses her energies to the point of anger (the latter is altogether the safest plan). If she is wise and strong enough to keep this attitude she will conquer with the average man; but if she be cringing and begs for the money he grudgingly gives—demanding to know how it is used, and making her feel like a culprit when asking for her own—he will not change for the better.

I once knew an angel-woman who tried to please what the world calls a good man. He gave liberally to the church, and his word was as good as law.

His opinion was sought by the villagers on all public occasions, but he had no money for his sick and patient wife or for his children; no kind word or look of sympathy to help lift her burden. With abundance of means, he lived penuriously; with an iron will and no sympathy in his nature, he destroyed the peace of his wife's life, who died of a broken heart, with no disease except that which comes of grief. On her death-bed she told me she had never eaten a meal in her own house unless they had company without shedding tears or leaving the table to suppress them. Had this man known how to comfort and encourage one of the best women that ever lived—had he been genial, kind, and generous in his own family, she would now bless her children, who are ruled, as he is, by a second wife, who laid her plans well and succeeded. Had the first wife been positive in her nature and refused to grieve, even though she had never been understood or appreciated, in all probability disease would not have had a foothold.

It sounds harsh, perhaps, to tell a sick and heart-broken woman that she must get almost, if not quite, angry; she must arrive at the point of absolute indifference in regard to the effects of doing her duty or she must die. I told one lovely creat-

ure, who had spent years in ministering to a drunken husband, that if she would let him see her angry instead of in tears it might save him. She had never crossed his wishes, had exercised no will of her own, but had yielded to him in all things, hoping thereby to save him. But as he continually went from bad to worse, she began to ponder my words, and, one day, packed her trunk and took her children a long journey to visit her brother without consulting her husband. This strange act, so different from any in all the previous years, brought him to his senses. After a week passed, with no news of his wife and no sleep, he followed her, and, on his knees, confessed his wrong-doings, and begged her to return with him, saying he would lead a new life. She told him to reform first, then she would go; but her duty to three lovely children must now be paramount; that they must not live with and see their father come staggering home once or twice every week when her brother had offered them a home. He saw she was in earnest, and he became a new man and a church-member—all because she had knowledge of duty, and strength of will to perform it. It is not always possible for women to follow her example, but they may many times, by studying prayerfully the will of the Mas-

ter, see a light shining through the darkest places and be guided into it.

There is a grave question which affects the home life of many women in these days of expensive living. After devoting the week to the care of the household, women should, if possible, attend some church on Sunday. Although the habits of men, who do not attend church, urge them to the club or saloon, and their need of church influences may be greater, still the necessity for women to have a change of scene, to see people, to say nothing of their spiritual need, is far in excess of that of men; but, unless people have abundant means, it seems like asking an impossibility. We trust the time is near, however, when free churches will open their doors to those desiring their comfort and instruction. There is now room for many who do not avail themselves of it on account of pride. I know of an eminent divine in the East who often asked the rich people in his parish to remain at home in the evening, and invite strangers, or those unable to pay large pew rents, to occupy their seats. His is a wonderfully influential and prosperous parish; perhaps this helps to make it so. There are springing up, also, in every town of importance, societies similar to the Christian Association for Young Men,

art societies, and reading-rooms for women. These are great helps, and, if possible, all should avail themselves of their benefits.

The greatest duty of the women of to-day is to the girls of poverty and to fallen women; first, to the army who are drilling to fill the ranks of the fallen; those helpless little girls who beg on the streets, who can not go to school, who suffer from hunger and cold, from cruelty of drunken parents, and who, as soon as the ways of sin are known to them, rush madly in, and are lost in its maelstrom. In another chapter it is suggested that cottages be built in the country, and all children of both sexes taken from poor-houses and jails, from drunken parents and outlaws, and be brought up in them. Ten or twelve should be allotted to each cottage, with one good woman to act as foster-mother over this number; there should be a general school and dining-room, a kitchen, laundry, and chapel. As soon as homes could be found for them in the country they should be adopted. They should be called State schools, not poor-houses.

There is a degradation attached to an almshouse which is sure to follow any who have been inmates. This is a sure way, and the only one, to stamp out vice and crime. If the women of to-day knew their

power and influence, and were willing to deny themselves luxuries and to work unitedly, another year would see the beginning of this greatest of all reforms. There is a false view held by many in regard to stamping out the social evil. The idea that it can not be effected leads them to shut their eyes and ears to its awful degradation. But of one thing we may rest assured, women have it in their power to take away the need of prisons, almshouses, and asylums, and to regenerate the race. We may also rest assured that it will not be done until they join heart and hand in denouncing the libertine, and give to his victim sympathy, and an open door to a virtuous life. In this way may Charles Dudley Warner's assertion be verified, which says, "Women have it in their power to regenerate the race morally, by frustrating the criminal tendencies of those reared in vice." To educate the youth in virtue is the foundation of all great reforms. Another scientist says, "In order to hasten the reign of virtue, eunuchs should be made of all criminals and outlaws." Still another attributes the evils which affect society to "the lack of all fireside virtues." It is good for humanity that there is such a thing as high life. To it all should aspire, as these aspirations help to make it. It should not lead us

to become clannish, or to cherish a spirit of caste, but each and all should seek associations which will improve them ; none need ever fear harm from being found where duty calls, whether it be in the hovel of the poor, or in trying to win from it the inmates of a brothel. The diamond shines in all its lustre, even though its setting be made of charcoal. Let us be sure we are in the path of duty, and then follow our own convictions. "God and nature will confirm them, and strengthen us." We can then never feel alone or isolated, but related to all God's children, and feel a desire to help them as we have opportunity.

It is the duty of mothers to teach children veneration for the aged; age and youth are mutually dependent upon each other; nothing renews the aged like youthful associations; they live over again their childhood, and gather the glow of youth from their children, while the young are made nobler and purer by wise counsel of the experienced. Reverence crowns childhood and youth with indescribable loveliness, and, more than all, perfumes the pathway of age with the sweet fragrance of flowers.

Perhaps the most sacred duty of a mother is to teach her children to be absolutely truthful. God

does not deceive her, and does not intend she shall deceive those He has committed to her care. If the young intellect is smothered with falsehood, there is added curiosity, and a determination to pursue inquiry till the truth is found. How much safer to guard it with love and care, and shelter it from the sinfulness of this wicked world. Whatever pain she may suffer from it, nothing should deter her from the literal fulfillment of this duty.

Falsely called genteel notions hinder many women from doing what conscience dictates. It is a great loss to be hampered by fear of doing something not previously done by others. Many noble and generous deeds have been killed by want of courage to do as judgment dictates.

It is the duty of every woman, young and old, to study her appearance, and make it in all respects as faultless as possible. The way some have of arranging the hair, instead of bringing out the pleasant lines and beautifying the expression of the face, sharpens them, and makes angles where there should be curves. Fashionable women do not need this advice; they overreach the healthy point of attention to details in dress, and the care of the skin, and, by not considering its health, weaken the body, or some of its functions. But working-women get

so weary at their toil, and have so little to stimulate them to look well, that they grow indifferent, negligent, and sometimes slovenly. Children imitate their example, and grow up as regardless of appearances as calves and colts; such children, in after-life, can never acquire the love of order, or understand the fitness of things, as do those whose mothers, by precept and example, teach them system and neatness in all things.

It is the duty of young women to study the desires and needs of their parents and those younger than themselves. If there is one solace more than another, which parents receive for the sleepless nights, their anxiety for their children's welfare, and their struggle to place them on a higher pinnacle in life than they themselves occupy: it is to know these children are alive to their needs; that they study to relieve them from care and annoyance; that their little wants, as well as great ones, receive attention; and that they in turn have an almost equal care of those younger than themselves. I once knew a young lady who seemed to take her greatest pleasure in looking over her mother's wardrobe, and preparing little surprises for her, such as replacing soiled ruffles in the neck and sleeves of her dress, mending or cleansing where it

was needed, putting her clean linen near her just when she wanted it, and by a thousand little attentions, trivial in themselves, not only endeared herself to her parents, but was a bright and beaming star in the neighborhood, beloved of all who knew her. "To make the smoothest path for her parents," and "the best of everything," was her motto.

Young ladies should share the work of the household with their mothers, whatever it may be. I have sometimes seen mothers overburdened with anxiety and care, with more real work than two women ought to do, and to save their daughters, toil into the small hours of the night to accomplish it. At the same time their daughters would either be engaged in reading the latest novel, or making articles for church fairs, forgetful of their mothers' need. Mothers should begin early to claim assistance from their daughters, before they have come to have a mind of their own. Too often they do not consider work an accomplishment, and refuse to help their tired, overworked mothers. I have had many years of observation, and have universally found that children who were early taught that the mother's views were next to God's, and to disobey her in word or deed was to offend Him, came to be good men and women; while almost as

surely those who were disobedient and irreverent became demoralized, and sometimes criminals.

It is the duty of women to be patient and hopeful; to look on the bright side of all things. The best and noblest among us have been hampered and hindered by vexations; been overwhelmed and almost discouraged by difficulties which seemed insurmountable, and almost to thwart endeavor. To triumph over great obstacles renders us strong, and many times able to lift those around us out of their sorrows and despondencies. There is little glory or strength attained by doing what is easily accomplished. The oak standing alone in the field battling with the tempest strikes deep its roots, and toughens its fibers long after its forest-sheltered companion has crumbled to dust.

Hamerton says: "However circumstances may help or hinder us, the intellectual life is always a contest or a discipline; and the art or skill of living intellectually does not so much consist in surrounding ourselves with what is reputed to be advantageous, as in compelling every circumstance and condition of our lives to yield us some tribute of intellectual benefit and force. The school of the intellect is where the individual happens to be, and the teachers are the surroundings.

We quote again from Hamerton: "Observe a man of the world whose opinions are well known to you; notice the little pause before he speaks to a lady; during that little pause he is thinking over what he has to say, so as to please her best, and you may be sure the integrity of truth will suffer in the process." He pretends to be interested in her dress, and things which he knows she delights in; while she ought to know he cares as little for them as for the winds in the arctic zone. She spends her time agreeably, but loses the chance of gaining real knowledge. Men do not tell the truth to women, because lies please them better; and until women see through their deception and compel a change by being themselves honest and truthful, both parties must suffer, but men much less than women. "Where women have most culture, men are most open and sincere."

It is the duty of women to improve every opportunity for intellectual culture. Resources in this direction make them self-possessed and independent in conversation, which is an art in itself. To be able to converse well makes an ugly face attractive, and often plain features beautiful. Young ladies should be willing to forego the ordinary light conversation at their gatherings, and form societies for

improving it; leaving out frivolity and gossip, taking in its place subjects calculated to elevate the tone of society. A marked change from the present small talk would soon be manifest. "Conversation is interesting in proportion to the originality of the central ideas which serve as pivots, and the fitness of the little facts and observations which are contributed by the talkers." Hamerton, in a letter to a lady friend, says: "It seems lamentable that every cultivated woman should be forced out of the society of her own sex, and made to depend upon ours for conversation of that kind which is an absolute necessity to the intellectual. The truth is, that women so displaced never appear altogether happy; and culture costs so much downright hard work that it ought not to be paid for by any suffering beyond those toils which are its fair and natural price."

It is every woman's duty to be alone with herself at least an hour each day. Solitude brings more communion of soul with soul than constant companionship. Time to digest each other's thoughts; time to understand our own, and mature them; time to absorb the contents of the intellectual stomach before another cramming, is as necessary as the food itself. When surrounded by society,

we do not know our own minds; we form incorrect judgments; we are more or less deceitful. When alone, our thoughts exhale like the fragrance of flowers, and we feel growth and strength come to us. It must be a judicious and well-studied arrangement to have solitude and society so balanced that we are neither isolated nor bored. The greatness of many minds is due to isolation. Shelley, Wordsworth, and Turner were isolated workers. All great thinkers are annoyed by talkers, who can not understand them, or appreciate their work. They can not do artistic work with observers who interfere in many ways. It depends upon the spirit and culture of friends if they help or hinder us. It is a duty of the greatest magnitude to carefully select the books we read; they affect our lives, and the lives of our friends, to such an extent, and time is so short, that a selection from a few which will be particularly adapted to our individual needs should receive the attention, and be read thoroughly, rather than to waste time in half reading a large number. As an incentive to recreation combined with intellectual improvement, reading societies have come into fashion with the young, and with well-to-do people. It would be a good thing for these to mingle with and encourage work-

ing-women to have a reader appointed at their social gatherings, and some topic selected which would most instruct, interest, and help them. There are few with leisure who are willing to take a step outside "the set," as it is called, and mingle with common working-women, for fear of losing prestige with their friends. There are noble examples which have come into my immediate knowledge, where the refined, the delicate, and sensitive lady has gone among the ragged and filthy girls in the large and wicked city, and worked early and late to teach them not only all the industries, cooking, sewing, cutting, and fitting; but stimulating them by giving them the garments they make.

Reading and religious teaching were one exercise of each session. "Let others go and do likewise." It is the duty of women to have independence and moral courage to ignore in custom what hinders their usefulness, or highest attainments.

When the most cultivated women demand it, Dame Fashion will be the servant, and not the imperious mistress she now is. She must be compelled by women in the highest walks of life, who possess common-sense, to make the clothing of women loose, light, and suspended from the shoulders. It must be of sufficient warmth to pro-

tect the body, and suited to all changes of the weather. Those who desire to be distinguished from the multitude can use costly material as a characteristic. It would reflect a higher grade of intellect, however, if noble deeds, instead of dress, were more sought after as a distinguishing mark.

Women can not gather the force of character needed to inspire and guide a household if their time is wasted in following foolish and unhealthy fashions. Their need of a strong central authority is even greater than that of man in guiding and directing their power. They undertake too many things, and allow the education of their children to be too diffuse.

It is the solemn duty of mothers to give such education, physical, mental, and moral, to their children that, if poverty should overtake them, as it has hundreds of thousands in our day, they shall be prepared to earn an honest living in the thing nature has done most to aid them.

It is every woman's duty to give two hours, at least, in each day, to play; absolute diversion from toil, anxiety, and care. She can do more work in a month, if this plan is systematically carried out, than by pulling at the oars continually. The kind of play or diversion must be well studied. If she

is confined in-doors, going out must constitute this diversion, and it must be planned religiously not to work, but to forget it. In summer the woods, to those who live in cities, give the most and purest delight.

At no far distant day the authorities will, we think, as a sanitary measure, furnish easy and cheap transit from the crowded marts to the deep, dense forests, where one may listen to the songs of birds, the rustle of leaves, and the murmur of brooks, and breathe the sweet, pure breath of heaven, giving its ozonous perfume for the healing of the weak and overworked pilgrims who seek their sacred retreats.

> To fly away from the haunts of men,
> To live our childhood over again,
> To think the world as pure and good
> As we in innocence thought it then,
> Would take away our sorrow and pain,
> And make life worth living over again.

Women employ their thoughts and time too much in following the beaten track of custom. There are many pitfalls which might be avoided by stepping aside from it, so that the fresh inspiration of nature might rush into and create anew the healthy energies of many who might be leaders, instead of following in the ruts of those whose blunders only mislead.

With the birth of each new day nature presents new paths in which we are to find her treasures; new leaves are opened on which we are to write our thoughts and inspirations. When in the attitude of students, it is surprising how much knowledge comes to us from the varied aspects of nature. The sunshine and storm, the winds and the waves, the heat and cold, teach lessons of wisdom if we give heed thereto.

The apartments we live in, the people who eat with us at table, books, flowers, and animals, all give color to our education. These teachers should be invested with more charms, instead of looking so far from home for them.

Misdirected energies and miscalculations discourage many who would make greater attainments if more time were given to perfecting plans, and more attention to lessons of the past.

To build well a home, mothers need the entire confidence and support of their husbands; if this is lacking, few women are strong enough to conquer and train the impetuous youth of to-day. This is especially apt to be the case where no servant is kept; the kitchen, sewing, and care of children occupy all hours, and women have no time to be agreeable. Want of time makes unfinished work;

those who love order chafe at this, and become irritable; they do not cultivate the fireside virtues, which would correct many evil tendencies in growing children. These hard-working mothers forget that with them, in great measure, lies the power to regenerate the world. They can not do this single-handed; there must be co-operation between parents before a perfect manhood and womanhood can supplant the mental, moral, and physical weakness which now prevails.

CHAPTER XVIII.

THE EVILS OF A FORCED EDUCATION.

THE tendency of our social condition is to stimulate the nervous system, and the deficient blood-making power too often fails to support it in its forced exertions. Here are the principal reasons why "brain-building" has proved with us so difficult a problem, especially in the schools where our girls are educated. This accounts for the mental and physical indigestion which prevails among the young. More studies are undertaken than the mind can recognize and hold at the tender age of from twelve to sixteen years. More and a greater variety of food is given to children of this age than people at middle life should eat. The result is mental and physical deformities. If parents and teachers could be contented to take time for knowledge to be absorbed like food—not interfering with one study by distracting the mind with another until it has fully mastered it and has time, like the tired stomach,

to rest between meals—more knowledge and more judgment to use it would take possession of our youth.

If the food could be well selected and the right quantity given at regular intervals, allowing nothing between meals, the teeth and the digestive apparatus would remain sound to old age. As the strength of the mind depends upon the healthy body, and as the food we eat makes the power or richness of our thought, is it not strange that this subject is so much ignored? If the brain received more care and could have its moral part fed with the right food, our sons would not as frequently grow into bank thieves or robbers of our public and private treasuries; our daughters would have bodies which an artist would not scorn to paint, and heads which could hold something beside the latest style or the most sensational novel.

There is less danger of injuring the muscles than the brain and nervous system by forcing. Immature minds can not grasp and hold what, if first allowed to grow strong, they would drink in, as plants do dew, without effort. All instruction is made easier and more lasting which can be illustrated by charts and models. Memorizing to a degree strengthens the mind, but requires constant watch-

ing. If a young person becomes restless at night, talks in sleep of what he or she studies, it is time to interfere, change the subjects, and lessen the hours of application. The minds of students are weakened by forcing them. Nature always settles matters and pays with interest her honest debts. There ought to be more object-teaching in seminaries and colleges, as well as in primary schools and kindergartens. Instead of moulding all minds into one particular shape, there should be discussion and inquiry and power developed to be an individual self.

Besides killing a large army every year, many are rendered helpless invalids for life by the manner they are crowded through the schools and colleges. Buckle says there are many men whose intellects are ruined by the activity of their education. We very much doubt if the boys who are crowded through a full course of our most famous schools will be as well fitted for business, either active or professional, as their fathers were, who learned all they ever knew of books in the country schoolhouse during the three months of winter when they could not work on a farm. They early learned that they were depended upon for that work which could not be done without them. They had no

idea of having a purse of their father's gold. They understood what books they had, and had better ideas on many subjects than boys of the same age now who have been crammed with Greek and Latin and look brain-wearied and sickly. The nerve-force of this generation is exhausted, culture takes the place of muscular exercise, and they have little knowledge except of books. They entirely forget that *the only knowledge which is of any avail to us is that which we constantly and habitually use.* Too much schooling and too little practical knowledge is the rule among the children of the better classes. Girls as well as boys have all the life-force drained out of them by trying to force the brain. To make our meaning clear, we will give one well-authenticated example.

In a late number of the *Popular Science Monthly* is the history of a young lady who was educated to death. We give it in the mother's own words:

"At the age of fifteen Mary was a remarkably fine and healthy girl. She seemed to be safely over the critical period, and, till after that time, had never suffered as many girls do at the commencement of their womanhood. Her thinking powers were quick and vigorous, and she was the pride of her teachers and the joy of her parents.

Unlimited mental progress was laid out for her, and it seemed that there were to be no bounds to her acquirements.

"She had then finished a good common-school education at the best high-school, and had entered an institute for young ladies (a boarding-school) of the highest character. The curriculum of study there was comprehensive, and it required the closest application of an ambitious scholar to succeed. One hour was allowed for walking and recreation during the day, and half of that hour could be spent, if the pupil desired to do so, in the music-room.

"As the months went on I began to notice that her complexion, which had been pure rose-leaf, became almost transparent, and that the fresh blood left her cheeks. Still she did not complain nor lose flesh, but said sometimes if she could sleep a week she would enjoy it, and that it almost always happened that she had the most to do and the longest to stand when she was unwell. Her progress in her studies was wonderful, and it seems incredible to me now that we should have let her devote herself so entirely to them. Her musical talent was great, and that was also under cultivation. When she was seventeen she was the first soprano singer in the choir of the church to which she belonged.

"At last I began to be alarmed at the remarkable flow whenever she was unwell, and at the frequent recurrence of the periodical function. I felt as if something should be done, and consulted our family physician as to what could be given her, and how this increased action could be stopped or diminished. He prescribed iron as a tonic, but said we should do nothing more, for 'every woman was a law unto herself,' and as long as nothing more serious occurred she should be let alone. This from a man who had daughters himself, and eminent in the profession! Never a word about rest; never a hint that she could overwork herself, and thus bring misery for the rest of her life. She left school in June of that year, with noble honors and an aching frame, and after two months' vacation and rest, which seemed to do her a world of good, began another year of unremitting hard study. Loving and gratified parents, proud and expectant teachers, looked upon her as capable of accomplishing all that had ever been done by faithful students, and of advancing far beyond all who were in the graduating class with her. Her teachers were as kind as any could have been. I think the fault was in the system that requires so many hours for study, no matter what the condition of

the pupil may be. As an instance, twenty-five questions were given her to be answered; she was seated at a table from 10 A.M. until 8 P.M., ceaselessly thinking and writing; and the twenty-five questions in classical literature were faultlessly answered, and that, too, at a time when, had I known what I now know, she should have been resting on her bed.

"Her father, to whom the paper was shown for his approval, wrote on the margin: 'It seems to me that the task imposed here was a great one indeed, but it has been performed with good success.'

"I do not for a moment want to find fault with her teachers, for kinder, more interested ones no pupil ever had; and the delight a teacher derives from a painstaking and appreciative pupil can not be understood by those unused to teaching.

"While the dear child was meeting our utmost requirements as a scholar, the foundations of her life were being sapped away.

"In May, 1872, a little more than two weeks before the June commencement, she was taken with fearful sickness and severe chills, just after one of the hemorrhages that came every three weeks regularly. Our doctor was called, and the first thing she said to him was: 'Doctor, I must not be sick now; I can not afford the time; I must be well for

commencement.' For four days she suffered very much, but quinine and all sorts of tonics brought her up, and the two weeks that should have been taken to get well in were spent in study, study, study! All the examinations were passed successfully, even brilliantly, and she was graduated with all the honors of the institution.

"Oh, how proud we were of her; and when she came home, frail and weak as a wilted flower, we said that she should have a long rest, and every comfort that we could give her. All summer she remained in the highlands of the Hudson; yet, when autumn came, she was not as much improved as we thought she ought to be, though very much improved with regard to the monthlies, their recurring at right times now.

"In September she commenced studying again; her French and music were continued, so that she might become still more accomplished in those branches; and lectures on rhetoric and moral philosophy were attended also. The habit of studying was so strong upon her that she could not give it up. Now came swelling of the joints and fingers, and the old trouble—all of which she would have kept to herself if she could have done so; but I was so anxious about her that I ascertained her

condition, went to the doctor again, and begged him to tell me what to do that would stop the weakening periodical disturbance, as I was persuaded that was the cause of her trouble. He said she had inflammatory rheumatism, and prescribed soda, but I was not to do anything for the other matter, and, against my own convictions, I let things take their course. Oh, if he had only said, take her home and stop her studying. Armed with such authority, I should have done it; and how do we know but she might have been with us now if I had done so? She worked till the 25th of December, then came home, and said decidedly she would study no more till she was well. We were rejoiced at her decision, for although we were anxious that her education should be complete and thorough, we had felt for a long time that her health was becoming impaired; still we were sure she had a good constitution, and thought that would carry her through. She did not grow thin, but stout and pale, and such a transparent pallor that, now I think of it, I wonder that all who looked at her did not see her blood was turning to water.

"Her sweet and lovely soul was so uncomplaining, and her smile always so bright, that we never for a moment thought she could fade and die.

"She brightened up somewhat during the next month, but still did not 'get well.' About the last of January her limbs swelled so much that in haste I rushed for the doctor; then he said her kidneys were congested, and that Bright's fatal disease was her malady. All that despairing love could do was done now. In five short weeks we laid her in Greenwood.

"Whatever was the form of disease from which she suffered, I am convinced that it was brought on by incessant study, when she should have rested, and that it was fixed when she had the severe chill in May, 1871. She was by no means a frail girl when she entered the institute; she was tall, finely formed, with a full, broad chest, and musical organs of great compass. Her bust was not large; neither was it flat, as it might have been. Her features were not too large; she had brown eyes, brown hair, a very sweet and pleasing face. With every indication at first of strength and a good constitution, she fell at last a victim to want of sense in parents and teachers, and (shall I say?) of physicians, as well."

Parents and teachers do not understand the kind and amount of teaching suited to each individual case. They have a curriculum, and push all alike

through it. Those whose bent and inclination are suited to it succeed, if their nervous vigor is equal to the strain; while others, just as well adapted for a different one, are marked as failures.

"We can no more expect clear, well-defined ideas, where there is such an amount of cramming, than to expect a beautiful, well-defined, and satisfactory photograph, from a sitting before the instrument half the required time. One is a physical, the other a mental blur."

A short time since I was a guest, for a night, in one of the magnificent homes, which are not as widely separated as they were fifty years ago in our country. I was met late in the evening by the eldest daughter, who conducted me to my apartments. On leaving, she said, "Mamma will meet you in the parlor; I must be excused, to finish my lessons." I remonstrated, telling her the days were long enough to study in; that the evenings should be given to rest and recreation. "Oh! but," says she, "my class shall not get ahead of me. Our algebra lesson is sixty pages, and I am bound to get every example; besides, I am studying Greek, Latin, and half a dozen other things, and have not a moment to spare."

Nature has done a great deal for this girl, and her

mother before her; but I am sure she will soon be numbered among the wrecks we find all along the pathway of life, unless rest soon takes the place of this strife for emulation. (This occurred four years ago, and this girl is now, in appearance, an old woman.) Each one of us is, by nature, gifted for something. To this one talent, if it be but one, let us direct our education. Let us be content to be ourselves, and not imitators; content to see and admire in others work which we can never expect to do ourselves. Competition is often a good stimulus to what is in us; but if the force or spirit of art, in the direction we are working, be not born in us, we must look to the work for which nature has fitted us before we succeed.

The competition and strife in schools must be modified into an ambition for each pupil to do his or her best, in following the natural bent of inquiry which each possesses; then, without competition, or too critical examinations, everybody can be proficient in something.

How often we see great brilliancy in youth obscured before the physical system has hardly reached maturity.

How seldom is nature left to express herself, save may be in some bashful youth or maiden, who, in

after-years, because they could not be pushed, blossom into great men and women.

The happiness which comes from doing our own work well should be no greater than that from appreciating and enjoying the perfect work of others. With sorrow I feel that sympathy with, and reverence for others, especially the aged, is on the decline. This nation, at least, lacks nothing in admiration of self. If we realize that the happiness and usefulness of others are increased by receiving the sympathy and appreciation which real merit deserves, we shall ourselves be made better, and make the workers better by giving it.

Untruthful flattery is detestable, and works a multitude of evils to all concerned. Reverence and respect are lessons which need teaching; how to do our work rightly; how to educate those who will repay for the toil, and leave those who can not, or will not, see work in its real elevating power, is the great question of to-day. Unlike one of our great teachers, we *will* try to *re*form those who are "out of form" and gone astray.

The happiness of saving those who are yet pure, with no sear or blot upon their physical or moral nature, would bring the Kingdom of Heaven near. It is slow work, and the slowness of growth is what

we most need to understand. We are rushing things so fast in these days that it seems impossible to get root. What is soon and easily learned is worth little. Gird on, then, the armor of patience, those of us who have the care of growing children. If they do wrong from not knowing, or from the deep unrest born within them, is it wholly their fault?

"Who are most guilty, those who perish, or those who forget to save?"

"The learned are God's appointed messengers to guide the erring and untaught.

"Let us be active, and grow strong in our work. After we have finished it we shall be summed up in the aggregate, and put down as so much good or evil to humanity."

CHAPTER XIX.

THE CARE OF INFANTS.

THE most of women hope to become mothers, and therefore any subject which will tend to give us "an enlightened motherhood," is important; and this volume would not be complete without a few special and practical suggestions on the feeding and care of infants. Of the many works specially on this subject, "How to Feed the Baby,"* by Dr. Page, is the most recent; and we are glad to draw from this source for some of the material in this chapter. His ideas may be considered by some as radical; but it is certain, that the plan of feeding he recommends, is sure protection against worms, and many diseases of children; and when sickness comes, there are many more chances in favor of a child thus fed, being able to withstand the disease, than

* "How to Feed the Baby, to Make Her Healthy and Happy. With Health Hints," by C. E. Page, M.D. 12mo, paper, 50 cents; extra cloth, 75 cents. Fowler & Wells, Publishers, 753 Broadway, New York.

if allowed to follow the present fashion of gorging. Of this we are fully convinced, and a trial of the plan recommended can not make matters worse than at present, or the mortality greater. When Nature's laws are fully understood and children invoked instead of coming into the world uninvited, and sometimes under protest, the death-rate will be lessened to an astonishing degree, and the diseases of children disappear.

THE FEEDING.

Dr. Page says: "During fetal growth the increase, except in monstrosities, is about one-third of an ounce per day. Why it should be deemed rational for this ratio to be increased six or seven hundred per cent. directly after birth, is beyond my comprehension. In spite, or because of this hot-house forcing during the first few months, the usual weight at five years is less than if the rate of prenatal growth had been continued throughout these years. The excessive fat so generally regarded as a sign of a healthy babe, is as truly a state of disease as when it occurs at adult age. This disease finally culminates in one of two things—a considerable period of non-growth, or a violent sickness which strips the muscles of fat, if not of life.

"Owing to a lack of knowledge on the part of parents, as to the requirements of children as to the kind and quantity of food, and of the symptoms of a badly constituted, or excessive diet, there are very few well-fed children; consequently, it is rare to find an individual who from infancy to old age has enjoyed the measure of health and comfort easily attained in most cases. An increase of one-half to one pound a week is simply rolling on fat, which means disease."

This writer considers one pint of cow's milk sufficient for an infant six months old; make of this three meals—one at 6 A.M., 12 M., and 6 P.M. Only water at night. It should not be awakened out of sleep to eat. If more food is taken than is absorbed, it undergoes decomposition, giving rise to severe colic from generated gasses, and all sorts of troubles arise from this cause. The child takes cold easily, has constipation and indigestion, which often terminates with diarrhœa. It is frequently attributed to teething, when the real cause is the body is trying to perform its natural functions with an overloaded stomach. Blood-poisoning comes from improperly digested food. The maxim, Feed a cold and starve a fever, has killed thousands. As long as a person or child with a cold, overeats, he is

more exposed to an increase of the cold. It needs to be impressed upon the minds of people that it is not the large quantity eaten, but the right quantity and quality, properly digested and perfectly assimilated, that alone can insure the best results. "When this matter is better understood, the rearing of children will be a delight in the household, instead of a torment from which so many shrink, and which many avoid at the price of guilt." Three or four meals in the twenty-fours hours are all that babes need. If the mother's breasts become painful from the excess of milk, she can use a breast-pump. In all probability, in this case, she has taken too much food or too frequent meals.

Overeating is no doubt the direct cause of the terrible mortality among infants. It takes longer to digest cow's milk than that of the mother. Consequently artificially fed children should go longer between meals to allow more rest for the stomach. Children fed in this way do not have colic, and are not disturbed by wetting the clothing at night. If the child is properly fed and dressed, and is otherwise rationally managed, there will be no need of sleepless nights on baby's account. And in a few days may become so regular in habits that the bun-

dled and pinned-up squares, which cause bow-legs, and sometimes curvatures of the spine, can be dispensed with entirely.

In this age of mental, moral, and physical *uncontrol*, parents should pause and consider if the indulgence allowed a child in feeding, may not be the first step in his easily yielding to his desires and appetite in after-life. Habits are formed during the first month, and a child of that age cries for food, and because this stills him, he is allowed to gorge himself until he often cries from overfeeding. Drugs sometimes are then resorted to, and not until it is absolutely tipsy, or, in plain language, drunk, is it quiet, and its cries smothered. Daily repetitions soon give strength to habit, and upon opening its eyes from sleep, its mouth opens and continues so, until the gorging process again begins. He cries for food, and cries because he eats too much. Babes should have nothing but the breast if it is possible for the mother to nurse them.

It will seem to most persons who have been accustomed to the old ways which we all have followed, entirely impracticable to follow out the ideas contained in Dr. Page's new book; but being convinced, both from experience and observation, of

their merit, I quote the entire appendix to the third edition of "How to Feed the Baby," as this contains reasons and arguments on the feeding question which should be conclusive. The following is the "Appendix."

ANOTHER year has rolled away—gone; and with it have gone the usual proportion of children born within the year. The death-roll of Boston, for example (and the weeks are monotonously alike), for the current week—ending Aug. 5, 1882—shows 108 deaths of infants under one year, in a total of 262—three more than two-fifths. Disease of the digestive organs did the fatal business for seven-eighths of the number: cholera infantum, 65; diarrhœa, 9; dysentery, 6; inflammation of the bowels, 8; marasmus, 8. The four disorders last named, figured largely in the adult mortality also, but have no connection with the figures given. Excepting the last item—marasmus—not one of these disorders would have been possible if those infants had been given pure food, though this were offered in only such amount as would have insured wasting to death; that is, a *starvation diet*, or any quantity of food between this and the quantity best suited to insure the greatest thrift, could never, at any season of the year, excite any disorder on the list. The right amount would insure against all these disorders; while a starvation diet, pure and simple, would produce a

painless wasting, far preferable to the condition indicated by the term *marasmus*, which, in practice, is preceded and accompanied by a great deal of suffering. As usual, editorial comments begin and end with reflections on the weather: "the great mortality is due to heat." If so, it is none the less, and nothing more or less, than Nature's protest against a winter diet in summer (*i.e.*, all they want or can be induced to swallow); while the *winter* mortality is several times as excessive as it would be but for hot rooms (simulating a tropical climate without its fresh air) and an amount of food ample for the infant inhabitant of an ice-hut in Greenland.

Says Dr. Oswald: "The representative nurse believes in cramming; babies, like prize-pigs, are most admired when they are ready to die with fatty degeneration. The child is coaxed to suckle almost every half-hour, day after day, till habit begets a morbid appetite, analogous to the dyspeptic's stomach distress which no food can relieve till overrepletion brings on a sort of gastric lethargy." *

It has elsewhere in this work been pointed out that the highest attention has long been paid to the *breeding* of handsome and healthy animals, and but little to the breeding of beautiful and healthy children. It is likewise true that the question of the *feeding* of cattle of all ages receives a great deal of attention; improvements are suggested by experts, quite readily adopted by the "laity," and so progress is made

* "Physical Education," p. 202.

from year to year. With the alimentation of human beings how different! In the case of infants, indeed, the prevailing custom of feeding, among the most ignorant, is almost, if not quite, identical with the practices in vogue among the most elevated of our people. Among the lower animals the hog is the only really *gross* specimen to be found—the only one that corresponds in proportions to the babe who quite satisfies its parents, and is praised on every hand—and this creature is exceptionally fed for exceptional purposes, viz, to furnish the frying-pan with the elements that tend to increase the disease of a dyspeptic race. But even here the reformer is at work. Referring to the need of *meaty* instead of *fat* animals, a writer in the *American Agriculturist* says: "Out-of-door pigs would not show so well at the fairs, and would probably be passed over by judges and people who have been taught to admire only the fat and helpless things which get the prizes. Such pigs are well adapted to fill lard-kegs, whereas the standard of perfection should be a pig which will make the most ham with the least waste of fat, the longest and deepest sides with the most lean meat; it should have bone * enough to allow it to stand up and help itself to food, and carry with it the *evidence* of *health* and *development* in *all its parts*." Suppose this last sentiment—the natural outcome of the principle laid

* A neighbor recently remarked upon the tenderness of their pig-pork, their own raising: "Why, even the *bones* are so tender, they are almost as soft as the flesh itself." This is the condition of fat, "rickety" children, also.

down by this writer, and which has been presented throughout this treatise—suppose this should be the guiding thought in the matter of rearing infants, and the same interest manifested by parents to learn how to feed their children all the way along! "Infantile diseases" would figure very lightly in the death-roll, as compared with the present experiences.

It was in the hope of promoting this much-needed change that this book was published last year; and while the reform so desirable has not swept over the nation to its complete conversion, still the highest expectations of both author and publishers have been fully met in its reception and approval by the general public, as well as by the medical fraternity.

[From the Boston *Journal of Chemistry*, Aug., 1882].

FEEDING THE BABY.

The following is for the new issue of Dr. C. E. Page's "How to Feed the Baby," which, though first published a little more than a year ago, has already reached a third edition, owing its success largely to its having been approved by many of our best physicians, though the system it advocates is in direct opposition to all the established customs and traditions of nurses. Regarding the pernicious custom of constant feeding, Dr. Page says:

"The mother who essays even so mild a reform as the restriction of her new-born babe to a 'square meal' every three hours is likely to change nurses several times before finding one who will permit such 'cruel nonsense.'

"Those who advocate non-restriction in the nursing or bottling of infants are fond of asserting that colts, kittens, puppies, etc., under natural conditions, 'nurse all the time,' and they ask, Why shouldn't babies have the same liberty?

"People who argue thus do not consider the fact that babies are not often as 'naturally' supplied as young animals of the lower order. In some respects our civilization works adversely to the interests of the 'race of infants': few of our modern women are, strictly speaking, 'natural mothers'; too often the aliment supplied by them is affected injuriously by the unnatural conditions incident to their mode of life. The milk may be excessive in amount and deficient in quality—an evil which frequent nursing tends to increase. Often it is deficient both in quantity and quality, and is thought to be in some instances, when, in fact, it is not; and in other instances it is found impossible to, and some mothers *will not*, nurse their babies: hence the great number of cases where resort is had to cow's milk, which, though doubtless the best substitute when properly prepared, is still a strictly natural aliment for the calf only, being much 'stronger' than breast milk, and requiring a longer time for digestion.

"Again, the little animals referred to—puppies, for example—really spend comparatively little time in eating, although it is quite true that they make a great to-do about it, and do devote quite a share of their waking moments to *efforts* in this direction: (*a*). A great portion of the time when they appear to be

quietly regaling the 'inner dog' with their 'favorite prescription,' a close inspection discloses the fact that, with their noses simply buried from sight, they are sleeping, and not eating. (*b*). Another goodly portion of time is spent in a blind hunt for the nipple, in rolling about, in 'ground and lofty tumbling,' pushing, pulling, crowding, and badgering one another, each in the notion that the other has found it and is getting ahead of him, and in the effort to steal his brother's dinner. (*c*). They spend a good deal of time in vigorous efforts after the supply is exhausted; they shift from one nipple to another, and 'when they get there, the cupboard is bare.' Thus they manage to take a great deal of exercise, while getting comparatively little milk. Finally, while the supply is usually equal to their needs, it seems never to be in excess—*diet* and *exercise* being so well related to each other that the entire organism is normally developed.

"How different with babies! These, supplied from a full breast or bottle, fill themselves quickly and without effort—surely a contrast worth considering, more especially since the contrast in their physical condition is equally marked: lean and healthy in the one case; fat and ailing in the other. It is true that when the natural diet is supplemented with cow's milk, or when they are weaned and are fed to excess, puppies are made ill—have fits, that are attributed to their having 'swallowed a tooth' (of the size of a pin-head), instead of to the gross diet supplied; but as a rule they are rarely sick, and never have the disease so common, almost universal, in infancy, and

so much dreaded in adult life—fatty degeneration. Appearances are often deceptive: a novice who will take the trouble, however, to examine the fattest-looking kitten or puppy, will be surprised to find him made up of a very bony frame, muscles, tendons, and over all a *loose* skin, in no degree stuffed out with fat. As a rule—I have never observed an exception—the nurslings of animals are *never* fat, never even border upon that state; while human parents are never quite satisfied unless their babies' cellular tissues are storing up fat globules at the rate of a pound a week, an invariable precursor of—disease, shall I say? It *is* disease, and almost inevitably culminates in a sickness that robs them of the fat, if not of life. From a careful consideration of these points, it would seem that what nature alone accomplishes in the case of the young of the lower animals—normal growth and exemption from disease during the nursing period—demands, on the part of parents and attendants, the exercise of rare judgment, as well as care, in the alimentation of their little charges, in order to secure anything like the same happy results."

A very common remark with parents, in calling attention to the fat-swollen limbs of the little ones, is, "See how *hard* his flesh is!" Of course, it is not *flesh* at all—the flesh is buried far beneath it—but fat, and not *his own* at that, but that of the creature from which the milk is drawn, or, if the subject of the remark is of older growth, whether child or adult, the fat with which his cellular tissue is stuffed is that of the animals from which the meat, the butter, and

the cream were derived, and has been transferred unchanged. It is true that no creature living is altogether devoid of fatty matters; the healthiest body has, within the hollow bones, and about various localities, what may be called a normal amount of fat; and the mother's milk, in the case of an infant, or a well-balanced vegetable diet, in that of an adult, furnishes this in abundance; and if alimentation is carried to excess, there will be an excess of fat deposited, though the fat of animals constitutes no part of the diet. It has been taught by physiologists "that the fat of the body is not derived directly from the fat of the food. But from statistical analysis Hoffmann, according to the *Lancet*, has arrived at the conclusion that the formed fat of the animal body arises not only from heterogeneous elements of the food, but also in part, at least, from ingested fat. Radzcejewsky concludes that the special destination of this fat is the intramuscular adipose tissue. A series of investigations, undertaken by Lebedeff in the clinical department of the Pathological Laboratory at Berlin, leads him also to the conclusion that the ingested fat is deposited unchanged in the fatty tissue of the body. Two dogs were kept fasting for a month, losing in the time about 40 per cent. of their weight. Previous experiments have shown that under these circumstances all the fat of the body disappears. The dogs were then fed on a diet which consisted of large quantities of fat foreign to their own nature, and a small quantity of flesh. Both dogs regained their normal weight in three weeks, and

were then killed. One had been fed on linseed oil, and from its tissue was obtained more than a kilogram of fatty oil, which did not become solid at the freezing-point of water, and which corresponded closely in chemical character to linseed oil. The second dog was fed on mutton suet, which had a boiling point about 50° C., and in its body, in the muscles, about the internal organs, and beneath the skin, a form of fat was found which was almost identical with suet. . . . . Thus it would appear that ingested fat, even such as is foreign to the individual constitution, may yet become transformed directly into the fatty tissue * of the animal. Other experiments of the same investigator seem to show that this is true also of milk fat."

This explains, at least in part, why consumptives become fat on milk, or cod-liver oil and whisky, for example, and are said, often, to be "improving," and yet a few months later, die of their disease. They are, in fact, hurried to the grave by a diet really very much more unwholesome than that which originated, or aided largely in producing, their disease. This artificial fat is as abnormal, as much a foreign element, as though the oil had been injected under the skin and the tissues stuffed out mechanically; while the alcohol exerts an influence to prevent the normal excretion of waste matters.

---

* The proper name is *cellular* tissue. It can not be called "fatty" until these abnormal elements have been deposited therein. Its primary office is not the retention of such matters, though it does, upon occasion, serve to "relieve the body, to some extent, of the immediate effects of excessive alimentation, by affording a reservoir for surplus animal fat."

CONCERNING THE SWATHING OF NEW-BORN INFANTS.

It is, of course, not necessary to remind physicians, but it is not popularly known, that while the general circulation of the unborn babe is, in many respects, like that of the breathing creature, the blood, propelled by the maternal heart and entering at the navel, passes through the two auricles of the fœtal heart, which communicate by means of the *foramen ovale*, instead of passing through the auricles and ventricles in the regular order; and that up to the moment of birth and until inflated by the act of inspiration the lungs are dense and solid in structure. When, then, the babe is born, and comes under the necessity of having his blood propelled to and from his lungs by the action of his own heart, certain transformations take place.

I now come to the point of connecting the changes, or certain of them, that take place at birth: (1) the lungs change from their "dense and solid structure," the air-cells are opened for life; (2) the opening between the two auricles of the heart is forever closed; (3) "the pulsation of the cord, which is usually strong and distinct, ceases in ten, fifteen, or twenty minutes after birth, and the portion attached to the child shrinks and falls off in five or six days." The point I have in view is this, viz.: the treatment or dressing necessary for the navel at birth. We observe that it is physically impossible to even attempt to aid nature either in opening the lungs or closing the *foramen*

ovale. Is it not possible that "doctoring" the remnant of the cord, as commonly practiced. is foolish—foolish in the sense of being needless, and especially because unnatural and injurious to thus bandage the body? "What! would you leave that portion of the cord to grow hard and hang unprotected, with the danger of rupture always imminent?" Let us see. How much less does this reasoning apply to a carefully-tended (I might well say overtended) babe than to the puppy or kitten, who begins immediately his blind fight for life—pulling, hauling, rolling, tumbling, straining every muscle, from the moment he comes into the world? And yet no one is stupid enough to even tie a string about the remnant of cord left by the mother, who devours the "after-birth" and the cord to within an inch or two of the body of her new-born. No sweltering flannel bandage is applied about the little loins—no nuisance of any sort is committed upon this little child of nature. I am not alone in asserting that it is an act of barbarism to thus bandage a new-born babe. Hundreds of men have given this subject thought enough to be able to declare this, and emphatically. How, then, does it come about that this practice prevails world-wide? How was it first introduced? I can account for its introduction in no other way than this: observing the fact that stomach-distention, from excessive feeding, sometimes resulted in what is termed umbilical rupture (or the fact of rupture alone without connecting it with the question of diet), it was by some wiseacre deemed necessary as a protection.

Now, I can conceive that in case of an imperfectly developed infant, one whose tissues are unsound at birth, because of the unhygienic habits of the mother, (a greedy infant and a foolish mother—knowing no restriction,) that it should *seem* expedient to apply a bandage sufficiently snug to prevent such distention of the stomach as would tend to burst away the tissues at this comparatively exposed point. It is possible that there are some thinking physicians (thoughtless ones, who compose the vast majority, following all customs blindly), even now, who, in view of the inevitable cramming to which infants are subjected, consider that in general the bandage is the least of two evils. Some of the most intelligent ones, however, believe that sweltering the parts in this manner increases the danger of rupture by preventing the normal nourishment and strengthening of the tissues involved, besides affecting injuriously the kidneys, and, in fact, the entire organism. I, myself, believe this to be the case. In any event, however, when the question concerns a healthy-born babe, and a properly-fed one, from no point of view, except that of gross ignorance—inexcusable ignorance, if upon the part of a practicing physician—can any such appliance be deemed other than intolerable. In the case of a million such infants, thus fed, there could never be a single case of rupture—never one; nor would any other ailment ensue, as a result of neglecting to bind a swathe about the body. From only one point of view can an intelligent person, physician or layman, even hesitate in condemning

the practice *in toto*, viz.: to prevent excess in diet to the point of abnormally distending the stomach; and even here the sober second thought must decide against the practice, for the untrammelled body, unrestricted in its circulatory system and in the proper ventilation of the skin, can better withstand any degree of excess in diet without, than the relatively greater system with, the swathe. If the simple presentation of this matter is not sufficient to induce physicians to discountenance the practice and to urge parents to abandon it, no amount of argument, as it seems to me, would avail. How easy and how complete, to tie a soft rag around the remnant of the cord, dress the babe with the diaper (exercising mercy as to the number and tightness of these appliances), loose shirt, soft flannel gown, and easy slip; and, how comforting such treatment to the little creatures who are so utterly dependent upon our intelligence and care. What delight would be experienced in the household, with the advent of a baby who should be dressed in this fashion, have the freshest and purest air attainable, day and night, and have from a really healthy mother's breast, or from a healthy cow, food enough, and little enough to prevent disease—whether the meals were three or six, or a few mouthfuls allowed at an indefinite number of luncheons at indefinite hours; for it is not three meals, simply, that is the question, but the avoidance of surfeit and of all the wretched evidences of it, as obesity,* bowel and

* Whatever a healthy infant gains in weight above, say, three to five ounces a week, as the weeks go along from birth to the age of one year, is

stomach troubles, and the scores of minor ails which lead on to the so-called infantile diseases.

---

not bone and muscle, but fat. I have raised a pair of terrier puppies whose weight at birth was, the female 10½ and the male 11 ounces, whose gain in weight was about 10 ounces per week, week after week, until full grown; but with them full size was reached in about 16 weeks, while a human infant, whatever the system of diet adopted, requires more than as many years to attain maturity. These puppies, whose manner of feeding and of *earning* their food as they gathered it was as different from that of babies as their rate of growth, never, at any stage of growth, had a particle of adipose matter observable over or about them, but were throughout, like their mother, "lean," healthy, and happy.

I have cited the animal kingdom in proof of the fact that *normal growth* is utterly removed from any resemblance to the conditions usually observed in the case of the human infant; that it is always a lean, lank or spindling (not pindling) condition. I desire now to call attention to the further fact, equally significant and corroborative of my position, that the same law obtains throughout the vegetable kingdom: the saplings of all trees, the slips of plants as they grow along, rose bushes, berry bushes, etc., etc., all spindle along up in their growth; and even the cabbage, which at adult age inclines to *embonpoint*, is very slim in build through infancy and youth. It is not necessary to particularize further on this point; enough has been said to lead sound-thinking persons to sound conclusions.

(*End of Appendix to "How to Feed the Baby."*)

In regard to dressing the new-born child, I can not speak from experience in leaving off the band. My method has been to cut a hole in linen, cover it with mutton tallow, and slip the end of the cord through it, then wind another piece four inches long around the cord and keep it saturated in pure table oil. With safety-pins, fasten a flannel band around the body loosely, after laying a piece of cotton-wool over the belly of the child. This in

no way interferes with its comfort, but rather prevents danger from injury in handling until the cord falls off. If it is left to dry, it is likely with the most careful handling to become irritated, and emit a bad odor. Of the two thousand cases we have attended, no accident or rupture has occurred. I like the flannel band, and retain its use until after the child passes safely through teething; and in many instances until it is five years old. A piece of tape may be fastened to it, and pinned in with the diaper to hold it down until the millennial days come; when babies do not need diapers, I would still retain the warm, soft, loosely fastened flannel belly-band. I give this as my own experience, and would simply add, mothers may consider it safe to try the new way at least.

List of Special Works

PUBLISHED BY

Fowler & Wells, 753 Broadway, New York.

For Girls. A SPECIAL PHYSIOLOGY; or, Supplement to the Study of General Physiology. Illustrated. By Mrs. E. R. Shepherd. 12mo, extra cloth, price $1.00.
Written in a careful and entirely unobjectionable manner, it is so plain and practical as to be easily understood, and its perusal is sure to leave an impression of the importance of the subject on the minds of the readers. It discusses the Physiology of Woman; The proper relation of Dress to Comfort and to Health; The Age of Puberty; Menstruation; Some of the Diseases of Women, their Causes and Prevention; Relations to Young Men; Something about Marriage and Motherhood, and many other topics of importance.

Uterine Diseases; or, the Displacement of the Uterus. A Thorough and Practical Treatise on the Malpositions of the Uterus and adjacent Organs. Illustrated with Engravings from original designs. By R. T. TRALL, M.D. Price, colored edition, $5.00.

Children; their Diseases and Hydropathic Management. A descriptive and practical work, designed as a guide for families and physicians. By Dr. SHEW. $1.50.

Midwifery and Diseases of Women. A New Descriptive and Practical Work. Illustrated with Cases of Full Hydropathic Treatment. By Dr. SHEW. $1.50.

Sexual Physiology. A Scientific and Popular Exposition of the Fundamental Problems in Sociology. With illustrations. By R. T. TRALL, M.D., author of the Hydropathic Encyclopedia, etc. Price, $1.00.

Chastity, in a Course of Lectures to Young Men, intended also for the Serious Consideration of Parents and Guardians. By SYLVESTER GRAHAM, M.D. 50 cents.

The Parent's Guide; or, Human Development through Inherited Tendencies. By Mrs. HESTER PENDLETON. Revised and Enlarged. A book that every American woman should read Price, $1 25.

Hereditary Descent; its Laws and Facts applied to Human Improvement. $1.25.

Infancy; or, the Physiological and Moral Management of Children. By Dr. COMBE. $1.50

Maternity; or, the Bearing and Nursing of Children. Price, $1.50.

Home Treatment for Sexual Abuse. A Practical Treatise on the Nature and Causes of Excessive and Unnatural Sexual Indulgence, the Diseases and Injuries resulting therefrom, with Symptoms and Management. By R. T. TRALL, M.D. 50 cents.

Love and Parentage; applied to the Improvement of Offspring; including directions to Lovers and the Married, concerning the strongest ties and the most sacred and momentous relations of life. 50 cents.

Pregnancy and Childbirth, with Cases showing the remarkable Effects of Water in Mitigating the Pains and Perils of the Parturient State. 50 cents.

Chronic Diseases, especially the Nervous Diseases of Women. Designed for Married People. Both Men and Women should read it. 50 cents.

Philosophy of Generation, its Abuses, with their Causes, Prevention, and Cure By Dr. NEWMAN. 50 cents.

Amativeness; or, Evils and Remedies of Excessive and Perverted Sexuality; including Warning and Advice to the Married and Single. 25 cents.

Hints on the Reproductive Organs; their Diseases, Causes and Cure. 25 cts

Animal Fertility; a New Theory of Population. Law of Procreation. 25 cents

Pathology of the Reproductive Organs, embracing all Forms of Sexual Disorders, by R. T. Trall, M.D., and THE SEXUAL ORGANISM AND ITS HEALTHFUL MANAGEMENT, by James C. Jackson, M.D. $5.00.

Transmission; or, Variation of Character through the Mother. By GEORGIANA B. KIRBY. A book for women by a woman. 12mo, paper, 25 cents.

Sent by mail, post-paid, by

FOWLER & WELLS, Publishers, 753 Broadway, N. Y

FOR GIRLS. A Special Physiology; or, Supplement to the Study of General Physiology. By Mrs. E. R. Shepherd. 12mo, extra cloth, price, $1.00.

The following notices of this work are from Representative people, and are a sufficient guarantee as to its nature and value

"Jennie June" says: New York, *August* 8, 1882.

Gentlemen:—I have read "For Girls" with care, and feel personally obliged to the author for writing a book that is very much needed, and that mothers not only can, but ought to place in the hands of their daughters. Mrs. Shepherd has executed a difficult task with judgment and discretion. She has said many things which mothers find it difficult to say to their daughters, unless forced by some act or circumstances, which alas, may prove their warning comes too late. "For Girls" is free from the vices of most works of its kind, it is neither preachy nor didactic. It talks freely and familiarly with those it is written to benefit, and some of its counsels would be as well heeded by our boys, as our girls. Respectfully yours,

Mrs. J. C. Croly.

Mrs. Caroline B. Winslow, M.D., of Washington, D. C., in an editorial in the *Alpha*, says: "It is a book we most heartily and unreservedly recommend to parents, guardians, and friends of young girls to put in the hands of their daughters and their wards. It fully supplies a long existing need, and completes the instruction ordinarily given in physiology in our high-schools and seminaries. This book is rendered more valuable and important, as it treats with perfect freedom, and in a wise, chaste, and dignified manner, subjects that are entirely neglected by most teachers of popular physiology. . . . . None but a woman with a crystalline intellect, and a pure loving heart, could have written this clean, thoughtful, and simply scientific description of our sexual system, and our moral obligation to study it thoroughly, and guard it from any impurity of thought or act, from injury through ignorance, abuse, or misuse. It has won our entire and hearty approval, and enlists us as a champion and friend, to do all in our power for its sale, not for the pecuniary compensation of its author, but more for the lasting good of our girls, who are to be the teachers, wives, mothers, and leaders, after we have laid aside our armor and have entered into rest."

Drs. S. W. & Mary Dodds, physicians, with a large practice in St. Louis, Mo., say: "The book 'For Girls,' which we have carefully examined, is a valuable work, much needed, and it is difficult to say whether the daughters or their mothers would be most benefited by a perusal of it. You will no doubt find ready sale for it, all the more, as there is hardly another book yet published that would take the place of it."

Mary Jewett Telford, of Denver, Colorado, says: "Mrs. Shepherd has earned the title of 'apostle to the girls.' No careful mother need hesitate to place this little book in her daughter's hands, and the probabilities are that she will herself learn some helpful lessons by reading it. While there is no attempt made to solve all the mysteries of being, what every girl ought to know of her own organism, and the care of what is so 'fearfully and wonderfully made,' is here treated in a manner at once practical, modest, sensible, and reverent."

The Phrenological Journal says: "A book designed for girls should be written by a woman to be perfect; it being understood as a matter of course that she possesses a thorough familiarity with the subject she discusses. The author of this book indicates an unusual acquaintance with the anatomy and physiology of the feminine organization, also a ready acquaintance with the other phases of social relationship belonging to woman in her every-day life; with a more than common discrimination in gleaning just such material from general professional experience as is best adapted to her purposes. The style of the book is clear, simply colloquial, and has nothing garish, prudish, or morbid about it. It is bright without being flippant in thought, agreeable reading without awakening anything of the sensual or exciting. It concerns the healthfulness and the well-being of the girls who are soon to become wives and mothers of the world. There is no doubt but what many of the seeds of diseases in women are sowed in girlhood, and therefore this book should be placed in the hands of every young woman, and of every mother of a daughter in the land."

Address **FOWLER & WELLS, Publishers, 753 Broadway, N. Y.**

WEDLOCK;

OR, THE RIGHT RELATIONS OF THE SEXES—Disclosing the Laws of Conjugal Selection, and showing Who May and Who May Not Marry. A Scientific Treatise. By SAMUEL R. WELLS. One vol., 12mo, 250 pages; plain muslin, price, $1 50; in fancy gilt binding, $2.

Among the subjects treated are the following: Marriage a Divine Institution; Qualifications for Matrimony; The Right Age to Marry; Motives for Marrying; Marriages of Consanguinity—of Cousins, when Justifiable; Conjugal Selection—Affinities; Courtship—Long or Short; Duty of Parents; Marriage Customs and Ceremonies of all Nations; Ethics of Marriage; Second Marriages, are they Admissible; Jealousy—Its Cause and Cure; Causes of Separation and Divorce; Celibacy—Ancient and Modern; Polygamy and Pantagamy; Love Signs in the Features, and How to Read Them; Physiognomy; Sensible Love Letters—Examples; The Poet's Wife; The Model Husband and the Model Wife—their Mutual Obligations, Privileges, and Duties; The Poetry of Love, Courtship, and Marriage—Being a Practical Guide to all the Relations of HAPPY WEDLOCK.

Here are some of the contents, compiled from the Index, which give a more definite idea of the scope and objects of the work:

Development and Renewal of the Social Affections; Inordinate Affection; Function of Adhesiveness and Amativeness; Admiration not Love; Addresses Declined, How to Do It; The Bible on Marriage; Matrimonial Bargains; True Beauty; Celibacy and Health; Celibacy and Crime; Marrying for Money; Facts in Relation to Consanguineous Marriage—when Permissible; Law of Conjugal Selection; Conjugal Harmony; Conjugal Resemblances of Husoands and Wives; Pleasure of Courtship; Confidence in Love; Duty of Cheerfulness; Woman's Constancy; Laws and Remedy for Divorce; Drifting; Economy; Etiquette of Long Engagements; Falling in Love; Forbearance; Whom Great Men Marry; Girls of the Period; Housekeeping; Good Habits Essential; How to Win Love; Honeymoon; The Model Husband; Home, How to Make it Happy; Mutual Help; Conjugal Harmony; Hotel and Club Life; Inhabitiveness; Terrible Effects of Morbid Jealousy; Juliet's Confession; Kisses; Kate's Proposal; Parental Love, How to Win it; Declarations of Love; Not to be Ashamed of it; Romantic Love; Second Love; Is Love Unchangeable? Should Parents Interfere? Love-Letters; Love Song; Congratulatory Letter; Little Things; Love's Seasons; Its Philosophy. Early Marriage among the Ancients; Motives for it; International Marriage; Marriage Customs; Marriage Defined; Its Legal Aspects; Marriage Ceremonies in the Episcopal, the Roman, and in the Greek Churches, Jewish and Quaker; Marriage Exhortation; Prayer; Hymns; Ethics of Marriage: Health and Marriage; Hasty Marriages; Marriage Maxims; Morganatic Marriages; Marrying for a Home, for Money, for Love, for Beauty; Right Motive for Marrying; Advice to the Married; Man and Woman Contrasted; Monogamy Defined; Matrimonial Fidelity; Matrimonial Politeness; Legal Rights of Married Women; The Mormon System; Man's Requirements; The Maiden's Choice; Letters of Napoleon; When to Pop the Question; Pantagamy at Oneida Defined; Meddling Relatives; Physical and Mental Soundness; Step-Mothers; The Shakers; Singleness; Sealing; Something to Do; Wedding in Sweden; Temptations of the Unmarried; Hereditary Taints; Temperaments; Trifling; Too Much to Do; May Women Make Love; Lesson for Wives; Wedding Gifts; Wife and I; Yes, How a Lady Said It; Plain Talk with a Young Man: Soliloquy of a Young Lady, and much more, covering the whole ground of Marriage. A beautiful Gift-Book for all seasons.

The book is handsomely printed and beautifully bound. It was intended more especially for young people, but may be read with interest and with profit by those of every age. Copies will be sent by post to any address on receipt of price, by **FOWLER & WELLS, 753 Broadway, N. Y.**

THE

Mother's Hygienic Hand-Book,

For the Normal Development and Training of Women and Children, and the Treatment of their Diseases with Hygienic Agencies. By R. T TRALL, M.D., author of "The Hydropathic Encyclopedia," "The True Healing Art," "Digestion and Dyspepsia," etc. One vol., 12mo. $1.

This is the latest and the best of the author's many excellent works. It covers ground the most important. It has to do with the perpetuation of the race. Shall children be well or ilily generated? Shall the lives of mothers be imperiled while performing the functions of motherhood? Or may she, by certain information given in this HAND-BOOK, pass through the trying periods without danger and with but trifling pain? Yea, verily, it may—and it *must*—be even so. Among other important matters not named here, this MOTHER'S HYGIENIC HAND-BOOK contains:

CHAPTER

I. Ante-Natal Influences.
II. Anatomy of the Uterine System.
III. Displacements of the Uterus.
IV. Menstruation—Regular.
V. Menstrual Disorders.
VI. Pregnancy—Proper Management.
VII. Miscarriage—Cause and Prevention.
VIII. Presentations and Positions.
IX. The Fœtus in Utero.
X. Parturition—Preparation.
XI. Diseases during Pregnancy.

CHAPTER

XII. Management of Labor.
XIII. Attentions to the Child.
XIV. Attentions to the Mother.
XV. Disorders Incident to Labor.
XVI. Disorders During Lactation.
XVII. Disorders of Infancy.
XVIII. Disorders of Childhood.
XIX. Training of Children.
XX. Hygiene of Infancy.
XXI. Raising Children by Hand.
XXII. Accidents and Emergencies.
XXIII. Poisons and Antidotes.

Every prospective mother ought to peruse this work, and learn how to properly prepare herself for the event. It will teach her exactly what she needs to know, and what may be learned no where else. It will prove a most useful charity—yea, an inestimable blessing—to the considerate man who bestows the book on the one who is to bring joy and gladness—through anxious periods—to his household. Will he not grant her this trifling boon?

The above gives a fair idea of the nature and scope of this work. It will be seen that it covers the whole ground, and, if it is carefully read, will go far towards giving us an "ENLIGHTENED AND A HEALTHFUL MOTHERHOOD."

Ladies wanted to act as Agents for this work. Send stamp for terms. Copies sent by mail, post-paid, on receipt of price $1.

IMPORTANT WORKS.

HEREDITARY DESCENT: Its Laws and Facts applied to Human Improvement. By O. S. FOWLER. $1.25.

THE PARENTS' GUIDE for the transmission of desired qualities to offspring, and Child-birth made easy. By Mrs. HESTER PENDLETON. $1.25.

Two very important works which should be in the hands of every parent Sent by mail, post-paid, by

FOWLER & WELLS, PUBLISHERS, 753 BROADWAY, N. Y.

UTERINE DISEASES AND DISPLACEMENTS.

A Practical Treatise on the Various Diseases, Malpositions, and Structural Derangements of the Uterus and its Appendages. With more than 50 Colored Plates. By R. T. TRALL, M.D. Price, $5.00.

A practical treatise on the diseases which cause so much suffering among the women of the present day. With the illustrations given, the reader will be able to understand very fully the causes of these troubles, and the proper means to be adopted for relief. The illustrations are all colored true to life, and make the work a most valuable one to all who would understand the anatomy of the female system. To give a better idea of the work, we publish the following from the

TABLE OF CONTENTS.

ANATOMY OF THE UTERINE SYSTEM.—Physiology of the Uterine System; The Reproductive Function; Theories of Menstruation; Spontaneous Ovulation; Conception.

INFLAMMATIONS.—Varieties of Inflammation; Inflammation of the Vulva; Vaginitis; Inflammation of the Uterus; Puerperal, or Child-Bed Fever; Uterine Catarrh; Errors of Physicians in Relation to Puerperal Fever.

ULCERATIONS.—Cauliflower Excrescence; Principles of Treatment; Cauterization; Syphilitic Ulceration; Chancres.

TUMORS.—Warty Tumor; Enlarged Clitoris; Polypus Tumors; Moles and Hydatids; Ovarian Tumors.

CAUTERIZATION.—*Modus Operandi* of Caustics; Qualities of Different Caustics; Actual Cautery; Methods of Cauterizing; Uterine Examinations.

MENSTRUAL DISEASES.—Obstructed Menstruation, or Amenorrhœa; Suppressed Menstruation; Irregular Menstruation; Laborious Menstruation; Dysmenorrhœa; Compressed Sponge; Excessive Menstruation, or Menorrhagia; Vicarious Menstruation; Irregular Menstruation; Cessation of the Menses; Leucorrhea.

DISPLACEMENTS.—Prolapsions of the Womb; Prolapsus Uteri; Protrusion of the Uterus; Complete Prolapsus; Disastrous Results of the Common Treatment; Mechanical Contrivances; The Corroding and Cutting Practice; The Proper Treatment; Mental Medication.

ANTEVERSIONS OF THE WOMB.—Anteflexion; Anterior Obliquity; Varieties of Anteversions; Ordinary Maltreatment; Proper Methods of Re-position.

RETROVERSIONS OF THE WOMB.—Varieties of Uterine Retroversion: Distinction between Retroversion and Retroflexion; Neuralgic Complications; Curability; Ordinary Treatment Objectionable; Correct Methods of Re-position; True Principles of a Radical Cure.

INVERSIONS OF THE UTERUS.—Varieties of the Inversion; Depression; Partial Inversion; Complete Inversion or Protrusion.

PROLAPSUS OF THE VAGINA.—Varieties; Anterior Vaginal Prolapse; Posterior Vaginal Prolapse; Prolapse of the whole Vaginal Canal; Symptoms; Causes; Treatment.

This work should be read by all who wish to thoroughly understand these subjects. Will be sent by mail, post-paid, by

FOWLER & WELLS, Publishers,

753 Broadway, New York.

NOW READY. FOURTH EDITION, REVISED.

HOW TO FEED THE BABY,

TO MAKE HER HEALTHY AND HAPPY. With Health Hints. By C. E. PAGE, M.D. 12mo, paper, 50 cts.; ex. clo., 75 cts.

Dr. PAGE has devoted much attention to the subject, both in this country and in Europe, noting the condition of children, and then making careful inquiries as to the feeding, care, etc., and this work is a special record of experience with his own child. We know this manual will be welcomed by many mothers in all parts of the land, as one of the most vital questions with parents is How to feed the baby, to promote its health, its growth, and its happiness. In addition to answering the question *what* to feed the baby, this volume tells *how* to feed the baby, which is of equal importance.

That the work may be considered worthy of a wide circulation may be seen from the following, selected from many

NOTICES OF THE PRESS.

"The book should be read by every person who has the care of children, especially of infants, and those who have the good sense to adopt its suggestions will reap a rich reward, we believe, in peace for themselves and comfort for the babies."—*Boston Journal of Commerce.*

"We wish every mother and father too could read it, as we believe it is founded on common-sense and the true theory of infantile life."—*Eve. Farmer*, Bridgeport, Conn.

"His treatise ought to be in the hands of young mothers particularly, who might save themselves a deal of trouble by studying it."—*Brooklyn Eagle.*

"Should interest mothers; for it is a really scientific and sensible solution of the problem of health and happiness in the nursery."—*Buffalo Courier.*

"'How to Feed the Baby' ought to do good if widely read; for there can be no doubt that thousands of babies die from ignorance on this very subject."—*American Bookseller.*

"It is as odd as its title, and is funny, interesting, entertaining, and instructive."—*Times*, Biddeford, Me.

"We know this manual will be welcomed by many mothers in all parts of the land, as one of the most important questions with parents is how to feed the baby, to promote its health, its growth, and its happiness."—*Christian Advocate*, Buffalo, N. Y.

"Our author makes plain how infantile diseases may, in great measure, be avoided, and infantile life made as free and joyous as that of the most fortunate among the lower animals."—*Central Baptist.*

"Dr. Page is a benefactor of this age, in having made it a special study—the care and feeding of the infant."—*People's Journal.*

"If mothers would read this book, we think fewer infants would 'make night hideous' with their cries."—*Homestead.*

"'How to Feed the Baby' should be taken home by every father to the mother of his children, if he values quiet nights, and is not inclined to pay heavy doctors' bills, or bring up sickly children."—*Food and Health.*

"It is safe to say that in proportion as this book is circulated and its teachings followed, will the rate of infant mortality decrease."—*Christian Standard.*

Will be sent by mail, post-paid, to any address on receipt of price, 50 cts. Address

Fowler & Wells, Publishers,

753 BROADWAY, NEW YORK.

NOW READY. DR. PAGE'S NEW WORK.

THE

NATURAL CURE OF CONSUMPTION,

Constipation, Bright's Disease, Neuralgia, Rheumatism, "Colds" (Fevers), etc.

How Sickness Originates and How to Prevent it. A Health Manual for the People. By C. E. PAGE, author of "How to Feed the Baby," etc. 1 vol., 12mo, 278 pages, extra cloth, price **$1.00.**

A new work with new ideas, both radical and reasonable, appealing to the common-sense of the reader. This is not a new work with old thoughts simply restated, but the most original Health Manual published in many years. It is written in the author's clear, attractive manner, and should be in the hands of all who would either retain or regain their health. It does for adults what "How to Feed the Baby" has done, and is doing, for infants and young children. Greater praise than this could not be given it.

The questions of "Malaria," "Disease Germs," "Tubercle Parasites" (of Dr. Koch and others), "Disease Waves," "Contagion," etc., etc., are handled in a somewhat unique fashion, and many of the supposed chief causes of sickness are shown to be of comparatively little influence, while the real causes are pointed out and shown to be constantly operative in the daily practices that are well-nigh universal. We print below a few of the

NOTICES OF THE PRESS.

"There is a large proportion of good sense and practical wisdom in the rules laid down by Dr. Page for healthful living, and if they were more generally followed, it can not be doubted that the doctors would be less actively employed." — *The North American*, Philadelphia.

"The volume is full of suggestions backed by examples of practice, and it belongs to a class of books which is doing good by calling attention to bad habits, and stimulating people to live so as to prevent disease. A nudge of the elbow may keep a person from being run over, when the highest skill may be unable to save his life afterward."—*New York Star*, New York.

"Will commend itself to the good sense of thoughtful people who . . . . are averse to the continual dosing which the sick and their friends insist upon, even when the family physician's better judgment deems it unnecessary."—*Syracuse Journal*, Syracuse, N. Y.

"The book is written from a radical standpoint, but relates mainly to a disease whose treatment, judged by the mortality reports, has been radically wrong; and if, as we are led to hope, we have here a treatment that is *radically right*, a grand advance will have been made. The work, as a whole, will well repay a careful perusal, even as a *text-book* for *physicians* of all schools, the most intelligent of whom are coming more and more to realize the importance of hygiene as the principal treatment in all disorders."—*New Jerusalem Messenger*, New York City.

"This book also treats of constipation, Bright's disease, croup, diphtheria, insomnia, insanity, rheumatism, fatty degeneration, biliousness, hay fever, neuralgia, dyspepsia, scrofula, and, in fact, almost all the ills that flesh is heir to. There is a valuable chapter on air-baths. Numerous authors are cited, and the book is thoughtful and well considered." — *National Tribune*, Washington, D.C.

"Dr. Page's 'Natural Cure' is, in brief, the substitution of an active, outdoor, free life, for unnatural modes of living, and the application of Nature's own preventives and cures, instead of physic and foolery. This principle he has elaborated and applied specifically to each of the diseases mentioned in the title, and to kindred ailments." — *Washington World*, Washington, D.C.

"The moral is that medicine is to be avoided, and our main reliance placed on air, sun-light, the proper amount and quality of food, and, upon occasion, on fasting. We have no doubt but this advice is useful and much preferable to overdosing."—*Evening Telegram*, New York.

"From a careful review of this work, it would seem that we have, at last, a 'bed-rock' health book, written by one who has devoted his life to the study of the prevention as well as the cure of sickness, through a rational interpretation of natural laws."—*Church Union*, New York City.

"Contains much invaluable advice."—*Indianapolis Journal.*

Sent by mail, post-paid, on receipt of price, **$1.00.** Address

FOWLER & WELLS, Publishers, 753 Broadway, New York.

THE PHRENOLOGICAL JOURNAL

Premium Book for 1884.

A VALUABLE WORK

ON THE

Avoidable Causes of Disease.

There is no question but what a large proportion of the diseases to which men are subject, are produced by avoidable causes. One of the best works ever written on this subject is

"THE DISEASES OF MODERN LIFE."

By BENRAMIN WARD RICHARDSON, M.D., M.A., F.R.S. 12mo, 520 pages, extra cloth, price $1.50.

We append a few of the many favorable opinions that have been expressed for this work in the

NOTICES OF THE PRESS.

"The work is of great value as a practical guide to enable the reader to detect and avoid various sources of disease, and it contains, in addition, several introductory chapters which are of great general interest."—*Nature.*

"Particular attention is given to diseases from worry and mental strain, from the passions, from alcohol, tobacco, narcotics, foods, impure air, late hours and broken sleep, idleness, intermarriage, etc., thus touching upon causes which do not enter into the consideration of sickness."—*The Boston Commonwealth.*

"He has no affinity with the class of old-women doctors who are eternally fussing and dosing, and with their infallible prescriptions break down more constitutions than all the skill of the faculty can repair. His principal aim is to point out the causes which lead to disease, and to prevent its occurrence by observing the physical laws which are the conditions of health."—*The Tribune.*

"His work contains many useful and valuable hints, suggestions, and directions, and they are put in such good and readable shape that one does not tire in studying them."—*The Toledo Chronicle.*

Sudden and premature death is nearly always produced by Avoidable Causes of Disease. Therefore, if the people wish to prolong their lives let them procure this work.

The price is $1.50, but a copy printed in large type, on tinted paper, bound in extra fine cloth, will be sent as a Premium to every subscriber to the PHRENOLOGICAL JOURNAL for 1884.

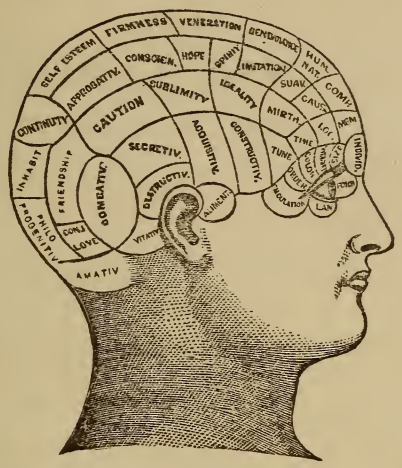
Terms.—The JOURNAL is now published at $2.00 a year (having been reduced from $3.00), single Numbers 20 cents. Twenty-five cents extra must be received with each subscription to pay postage on the Premium Book and the JOURNAL, which is now sent to all subscribers prepaid. Or to those who prefer it to the Book, we will send the Phrenological Bust, showing the exact location of each of the Phrenological Organs. Twenty-five cents extra for boxing and packing each Bust and Postage on the JOURNAL. The large-sized Bust will be sent by express, or No. 2, smaller, by mail, post-paid Address

FOWLER & WELLS, Publishers,

753 Broadway, New York.

GIVEN AWAY

A PHRENOLOGICAL BUST



TO EACH SUBSCRIBER

TO THE

PHRENOLOGICAL JOURNAL.

This publication is widely known in America and Europe, having been before the reading world forty years, and occupying a place in literature exclusively its own, viz: the study of **Human Nature** in all its phases, including Phrenology, Physiognomy, Ethnology, Physiology, etc., together with the "**Science of Health**," and no expense will be spared to make it the best publication for general circulation, tending always to make men better physically, mentally, and morally. Parents should read the JOURNAL that they may better know how to govern and train their children. To each subscriber is given

THE PHRENOLOGICAL BUST.

This bust is made of Plaster of Paris, and so lettered as to show the exact location of each of the Phrenological Organs. The head is nearly life-size, and very ornamental, deserving a place on the center-table or mantel, in parlor, office, or study, and until recently has sold for $2.00. This, with the illustrated key which accompanies each Bust, and the articles published in the JOURNAL on "Practical Phrenology," will enable the reader to become a successful student of Human Nature. One of these heads should be in the hands of all who would know "HOW TO READ CHARACTER."

Terms.—The JOURNAL is now published at **$2.00** a year (having been reduced from $3.00), single numbers **20** cents. When the Premiums are sent, **25** cents extra must be received with each subscription to pay postage on the JOURNAL and the expense of boxing and packing the Bust, which will be sent by express, or No. 2, a smaller size, will be sent by mail, post-paid. To those who have the Bust, or prefer it, we will send the Book Premium.

Send amount in P. O. Orders, Drafts on New York, or in Registered Letters. Postage-stamps will be received. AGENTS Wanted. Send 10 cents for specimen Number, Premium List, etc.

Address **FOWLER & WELLS, Publishers,**

753 Broadway, New York.

HEALTH IN THE HOUSEHOLD,

OR

HYGIENIC COOKERY.

By SUSANNA W. DODDS, M.D.

One large 12*mo volume*, 600 *pages*, *extra cloth or oil-cloth binding*, *price* $2.00.

THE object of this work is to enable health-seekers, and those who would eat for life and for strength, to furnish their tables with food that is wholesome, and at the same time palatable.

Foods as ordinarily cooked, are robbed of their delicious flavors and rich juices, by all manner of wasteful and injurious processes, after which one tries in vain to compensate for these defects, by adding condiments and seasonings *ad infinitum*.

The work is divided into three parts. PART FIRST, giving **"The Reason Why,"** contains the philosophy of nutrition, giving the constituent elements of various articles of food, and their relative values, with directions for the proper selection and combination of the different kinds of food, and the reasons for some articles being better than others, with dietetic rules and hints in regard to Health in the Household.

PART SECOND contains the **"Hygienic Dietary."** Here we have directions for the preparation of food, recipes for cooking, etc., in what the author considers a strictly healthful manner; including breads of all kinds, the preservation of fruits, vegetables, etc.

PART THIRD is what the author calls **"The Compromise,"** containing directions for preparing food, not strictly in accordance with the Hygienic way, but in such a manner as to render it more plain and healthful than it is ordinarily found; and it will prove helpful and suggestive to many who find it difficult, on account of surrounding circumstances, to adopt the more strict Hygienic cookery.

Undoubtedly the best and most practical Family Cook-Book, and will contribute very much toward the promotion of Health in the Household.

AGENTS WANTED, to whom special terms will be given. Copies sent by mail, post-paid, on receipt of price. For terms address

FOWLER & WELLS, Publishers,

753 Broadway, New York.

WORKS PUBLISHED BY

FOWLER & WELLS, 753 BROADWAY, NEW YORK.

PHRENOLOGY AND PHYSIOGNOMY.

American Phrenological Journal and SCIENCE OF HEALTH.—Devoted to Ethnology, Physiology, Phrenology, Physiognomy, Psychology, Sociology, Biography, Education, Literature, etc., with Measures to Reform, Elevate, and Improve Mankind Physically, Mentally, and Spiritually. Monthly, $2 a year; 20 cents a number.

Bell (Sir Charles).—Expression: its Anatomy and Philosophy. With the original Notes and Illustrations by the author, and additional Notes and Illustrations by SAMUEL R. WELLS. $1.25.

Boardman (Andrew, M.D.)—Defence OF PHRENOLOGY; Containing an Essay on the Nature and Value of Phrenological Evidence; A Vindication of Phrenology against the Attack of its opponents. $1.25.

Bray (Charles).—The Education of THE FEELINGS AND AFFECTIONS. Edited, with Notes and Illustrations, by NELSON SIZER. Cloth, $1.50.

This work gives full and definite directions for the cultivation or restraining of all the faculties relating to the feelings or affections.

Combe (George).—A System of PHRENOLOGY; With One Hundred Engravings. Cloth, $1.50.

——Constitution of Man; Considered in Relation to external objects. The only authorized American edition; with twenty engravings, and a portrait of the author. $1.50.

The "Constitution of Man" is a work with which every teacher and every pupil should be acquainted.

——Lectures on Phrenology; with Notes, an Essay on the Phrenological Mode of Investigation, and an Historical Sketch, by A. BOARDMAN, M.D. $1.50.

These are the lectures delivered by George Combe in America.

——Moral Philosophy; or, the Duties of Man considered in his Individual, Domestic, and Social Capacities. $1.50. Uniform Edition, 4 vols., extra cloth, $5.00. Library Edition, 4 vols., $10.

——On Education.—Papers on Educational Subjects. One vol. 8vo, Edinburgh Edition. Cloth, $5.00.

This volume consists of valuable Essays written by Mr. Combe, and should be found in the library of every teacher.

——The Life of. By CHARLES GIBBON. 2 volumes, 8vo, with two portraits. London Edition. $5.00.

These two works are not published in this country, but we can furnish from our stock, or import to order.

Capen (Nahum, LL.D.)—Reminis-CENCES OF DR. SPURZHEIM AND GEORGE COMBE, and a Review of the Science of Phrenology from the period of its discovery by Dr. GALL to the time of the visit of GEORGE COMBE to the United States, with a new portrait of Dr. SPURZHEIM. 12mo, extra cloth, $1.50.

Drayton (H. S., A.M.), and McNeil (JAMES, A.M.)—Brain and Mind; or, Mental Science Considered in Accordance with the Principles of Phrenology and in Relation to Modern Physiology. Ill. $1.50.

This is the latest and best work published. It constitutes a complete text-book of Phrenology, is profusely illustrated, and well adapted to the use of students.

Drayton (H. S., A.M.)—The Indi-CATIONS OF CHARACTER, as manifested in the general shape of the head and the form of the face. Illustrated. 25 cents.

——How to Study Phrenology.— With Suggestions to Students, Lists of Best Works, Constitutions for Societies, etc. 12mo, paper, 10 cents.

Fowler (O. S.)—Education and Self-IMPROVEMENT COMPLETE; Comprising "Physiology, Animal and Mental," "Self-Culture and Perfection of Character," "Memory and Intellectual Improvement." One large vol. Illustrated. $3.50.

——Self-Culture and Perfection of CHARACTER; Including the Management of Children and Youth. $1.25.

One of the best of the author's works.

——Physiology, Animal and Mental: Applied to the Preservation and Restoration of Health of Body and Power of Mind. $1.25.

Sent by Mail, post-paid. FOWLER & WELLS, *Publishers*, 753 *Broadway, New York.*

WORKS ON PHRENOLOGY.

Fowler (O. S.)—Memory and Intellectual Improvement, applied to Self-Education and Juvenile Instruction. $1.25. The best work on the subject.

——**Maternity**; or, the Bearing and Nursing of Children, including Female Education and Beauty. $1.25.

——**Matrimony**; or, Phrenology and Physiology applied to the Selection of Congenial Companions for Life, including Directions to the Married for living together Affectionately and Happily. 50c.

——**Love and Parentage**. Applied to the Improvement of Offspring; including Directions to Lovers and the Married, concerning the strongest ties and the most sacred relations of life. 50 cents.

——**Hereditary Descent**; Its Laws and Facts applied to Human Improvement. Illustrated. $1.25.

——**Amativeness**; or, Evils and Remedies of Excessive and Perverted Sexuality; including Warning and Advice to the Married and Single. 25 cents.

——**Phrenology Proved, Illustrated, and Applied**. Embracing an Analysis of the Primary Mental Powers in their Various Degrees of Development, and location of the Phrenological Organs. The Mental Phenomena produced by their combined action, and the location of the faculties amply illustrated. By the Fowler Brothers. $1.50.

——**Self Instructor in Phrenology and Physiology**. With over One Hundred Engravings and a Chart for Phrenologists, for the Recording of Phrenological Development. By the Fowler Brothers. Paper, 50 cts.; cloth, 75 cts.

——**Synopsis of Phrenology**, and Charts for Describing the Phrenological Developments, for the use of Lecturers and Examiners. Paper, 10 cents.

Fowler (L. N.)—Marriage, its History and Ceremonies, with a Phrenological and Physiological Exposition of the Functions and Qualifications for Happy Marriages. Illustrated, $1.25.

——**Lectures on Man**, as explained by Phrenology, Physiology, Physiognomy, and Ethnology. Cloth, $1.50.

Sizer (Nelson).—Choice of Pursuits; or, What to Do and Why. Describing Seventy-five Trades and Professions, and the Temperaments and Talents required for each. With Portraits and Biographies of many successful Thinkers and Workers. $1.75.

——**How to Teach According to Temperament and Mental Development**; or, Phrenology in the School-room and the Family. Illustrated. $1.50.

——**Forty Years in Phrenology**; embracing Recollections of History, Anecdote and Experience. $1.50.

——**Thoughts on Domestc Life**; or, Marriage Vindicated and Free Love Exposed. 25 cents.

Spurzheim (J. G., M.D.)—Education; its Elementary Principles Founded on the Nature of Man. With an Appendix by S. R. Wells, containing a Description of the Temperaments and a Brief Analysis of the Phrenological Faculties. Illustrated. $1.50.

——**Natural Laws of Man.—A Philosophical Catechism**. Sixth Edition. Enlarged and improved. 50 cents.

Weaver (Rev. G. S.)—Lectures on Mental Science. According to the Philosophy of Phrenology. Delivered before the Anthropological Society. Illustrated. $1.25.

Wells (Samuel R.)—New Physiognomy; or, Signs of Character, as manifested through Temperament and External Forms, and especially in the "Human Face Divine." With more than One Thousand Illustrations. In one 12mo volume, 768 pages, muslin, $5.00; in heavy calf, marbled edges, $8.00; Turkey morocco, full gilt, $10.

"The treatise of Mr. Wells, which is admirably printed and profusely illustrated, is probably the most complete hand-book upon the subject in the language."—*N. Y. Tribune.*

Phrenological Bust.—Showing the latest classification and exact location of the Organs of the Brain. It is divided so as to show each individual Organs on one side; with all the groups—Social, Executive, Intellectual, and Moral—properly classified, on the other side. There are two sizes; the largest, not mailable, price $1. The smaller, 50 cents.

Sent by Mail, post-paid. Fowler & Wells, *Publishers*, 753 *Broadway, New York.*

PHRENOLOGY AND PHYSIOGNOMY.

Wells (S. R.)—How to Read Character.—A New Illustrated Hand-book of Phrenology and Physiognomy, for Students and Examiners, with a Chart for recording the sizes of the different Organs of the Brain in the Delineation of Character; with upwards of 170 Engravings. Paper, $1.00; Cloth, $1.25.

——Wedlock; or, the Right Relations of the Sexes. Disclosing the Laws of Conjugal Selections, and showing Who May, and Who May Not Marry. A Scientific Treatise. $1.50; fancy gilt, $2.00.

——New Descriptive Chart, for the Use of Examiners in the Delineation of Character. 25 cents; cloth, 50 cents.

Harmony of Phrenology and the Bible, including the Definition of the Organs, their uses, excess, and deficiency, with Quotations from the Bible recognizing every faculty and passion, sanctioning their use and warning against abuse. 10c.

The Phrenological Miscellany; or, Illustrated Annuals of Phrenology and Physiognomy, from 1865 to 1873 combined in 1 volume, the nine containing over 400 illustrations, many portraits and biographies of distinguished personages, together with articles on "How to Study Phrenology," "Resemblance to Parents," "Bashfulness," "Diffidence," "Stammering," etc., an elaborate article on "The Marriage of Cousins," "Jealousy, its Cause and Cure." 450 pages, $1.50.

Phrenology and the Scriptures.—Showing the Harmony between Phrenology and the Bible. By Rev. J. Pierpont. Paper, 15 cts.

The Annuals of Phrenology and Health Almanac for 1874, '75, '76, '77, '78, '79, '80, '81, '82, '83, in one vol. $1.

——Symbolical Head and Phrenological Map. On fine tinted paper, 10c.

Phrenology, its History and Important Principles. By T. Turner. 10c.

WORKS ON MAGNETISM.

There is an increasing interest in the facts relating to Magnetism, etc., and we present below a list of Works on this subject.

Practical Instructions in Animal Magnetism. By J. P. F. Deleuze. Translated by Thomas C. Hartshorn. New and Revised edition, with an appendix of notes by the Translator, and Letters from Eminent Physicians, and others. $2.00.

History of Salem Witchcraft.—A review of Charles W. Upham's great Work from the *Edinburgh Review*, with Notes; by Samuel R. Wells, containing, also, The Planchette Mystery, Spiritualism, by Mrs. Harriet Beecher Stowe, and Dr. Doddridge's Dream. $1.

Fascination; or, the Philosophy of Charming. Illustrating the Principles of Life in connection with Spirit and Matter. By J. B. Newman, M.D. $1.00.

Six Lectures on the Philosophy of Mesmerism, delivered in Marlboro' Chapel, Boston. By Dr. John Bovee Dods. Paper, 50 cents.

The Philosophy of Electrical Psychology, in a course of Twelve Lectures. By the same author. 12mo, cloth, $1.25.

The Library of Mesmerism and Psychology.—Comprising the Philosophy of Mesmerism, Clairvoyance, Mental Electricity.—Fascination, or the Power of Charming. Illustrating the Principles of Life in connection with Spirit and Matter.—The Macrocosm, or the Universe Without: being an unfolding of the plan of Creation, and the Correspondence of Truths.—The Philosophy of Electrical Psychology; the Doctrine of Impressions; including the connection between Mind and Matter; also, the Treatment of Diseases.—Psychology; or, the Science of the Soul, considered Physiologically and Philosophically; with an Appendix containing Notes of Mesmeric and Psychical experience, and illustrations of the Brain and Nervous System. 1 vol. $3.50.

How to Magnetize; or, Magnetism and Clairvoyance.—A Practical Treatise on the Choice, Management and Capabilities of Subjects, with Instructions on the Method of Procedure. By James Victor Wilson. 18mo, paper, 25 cts.

The Key to Ghostism. By Rev. Thomas Mitchel. $1.50.

Sent by Mail, post-paid. Fowler & Wells, *Publishers*, 753 *Broadway, New York.*

HEALTH BOOKS.

This List comprises the Best Works on Hygiene, Health, Etc.

Combe (Andrew, M.D.)—Principles applied to the Preservation of Health and to the Improvement of Physical and Mental Education. Illustrated. Cloth. $1.50.

——Management of Infancy, Physiological and Moral Treatment. With Notes and a Supplementary Chapter, $1.25.

Dodds (Susanna W., M.D.)—Health IN THE HOUSEHOLD; or, Hygienic Cookery. 12mo, extra cloth, $2.00.

Fairchild (M. Augusta, M.D.)—How TO BE WELL; or, Common-Sense Medical Hygiene. A book for the People, giving Directions for the Treatment and Cure of Acute Diseases without the use of Drug Medicines; also, General Hints on Health. $1.00.

Graham (Sylvester).—Science of HUMAN LIFE, LECTURES ON THE. With a copious Index and Biographical Sketch of the Author. Illustrated, $3.00.

——Chastity.—Lectures to Young Men. Intended also for the Serious Consideration of Parents and Guardians. 12mo. Paper, 50 cents.

Gully (J. M., M.D.)—Water-Cure IN CHRONIC DISEASES. An Exposition of the Causes, Progress, and Termination of various Chronic Diseases of the Digestive Organs, Lungs, Nerves, Limbs, and Skin, and of their Treatment by Water and other Hygienic means. $1.50.

For Girls; A Special Physiology, or Supplement to the Study of General Physiology. By Mrs. E. R. Shepherd. $1.00.

Page (C. E., M.D.)—How to Feed the Baby to make her Healthy and Happy. 12mo. Third edition, revised and enlarged. Paper, 50 cents; extra cloth, 75 cents.

This is the most important work ever published on the subject of infant dietetics.

——The Natural Cure of Consumption, Constipation, Bright's Disease, Neuralgia, Rheumatism, "Colds" (Fevers), etc. How these Disorders Originate, and How to Prevent Them. 12mo, cloth, $1.00.

Horses: THEIR FEED AND THEIR FEET.—A Manual of Horse Hygiene. Invaluable to the veteran or the novice, pointing out the true sources of disease, and how to prevent and counteract them. By C. E. PAGE, M.D. Paper 50 cts., cloth 75 cts.

Diseases of Modern Life. By BENJAMIN WARD RICHARDSON, M.D., M.A., F.R.S. 520 pages, $1.50.

The Health Miscellany. An important Collection of Health Papers. Nearly 100 octavo pages. 25 cents.

Gully (J. M., M.D.) and Wilson (JAMES, M. D.)—PRACTICE OF THE WATER-CURE, with Authenticated Evidence of its Efficacy and Safety. Containing a Detailed Account of the various Processes used in the Water Treatment, a Sketch of the History and Progress of the Water-Cure. 50 cents.

Jacques (D. H., M.D.)—The Temperaments; or, Varieties of Physical Constitution in Man, considered in their relation to Mental Character and Practical Affairs of Life. With an Introduction by H. S. DRAYTON, A.M., Editor of the *Phrenological Journal*. 150 Portraits and other Illustrations. $1.50.

——How to Grow Handsome, or Hints toward Physical Perfection, and the Philosophy of Human Beauty, showing How to Acquire and Retain Bodily Symmetry, Health, and Vigor, secure Long Life, and Avoid the Infirmities and Deformities of Age. New Edition. $1.00.

Johnson (Edward, M.D.)—Domestic PRACTICE OF HYDROPATHY, with Fifteen Engraved Illustrations of important subjects, from Drawings by Dr. Howard Johnson. $1.50.

White (Wm., M.D.)—Medical Electricity.—A Manual for Students, showing the most Scientific and Rational Application to all forms of Diseases, of the different Combinations of Electricity, Galvanism, Electro-Magnetism, Magneto-Electricity, and Human Magnetism. 12mo, $2.00.

Transmission; or, Variations of Character Through the Mother. By GEORGIANA B. KIRBY. 25 cts.; cloth, 50 cts.

Sent by Mail, post-paid. FOWLER & WELLS, *Publishers*, 753 *Broadway, New York.*

WORKS ON HEALTH AND HYGIENE.

Peck (J. L.)—The Human Feet.—Their Shape, Dress, and Proper Care. Showing their Natural, Perfect Shape and Construction, their present Deformed Condition, and how Flat Feet, Distorted Toes, and other Defects are to be Prevented or Corrected. Illustrated. $1.00.

The Diseases of Modern Life. By B. W. Richardson, M.D. Ex. clo., $1.50.

Pendleton (Hester, Mrs.)—The PARENTS' GUIDE; or, Human Development through Pre-Natal Influences and Inherited Tendencies. Revised Ed. $1.25.

Pereira (Jonathan, M.D., F.R.S.)— FOOD AND DIET. With observations on the Dietetical Regimen, suited for Disordered States of the Digestive Organs, and an account of the Dietaries of some of the Principal Metropolitan and other Establishments for Paupers, Lunatics, Criminals, Children, the Sick, etc. Edited by CHARLES A. LEE, M.D. $1.40.

Shew (Joel, M.D.)—The Family PHYSICIAN.—A Ready Prescriber and Hygienic Adviser. With Reference to the Nature, Causes, Prevention, and Treatment of Diseases, Accidents, and Casualties of every kind. With a Glossary and copious Index. Illustrated with nearly Three Hundred Engravings. $3.00.

——Letters to Women on Midwifery AND DISEASES OF WOMEN.—A Descriptive and Practical Work, giving Treatment in Menstruation and its Disorders, Chlorosis, Leucorrhea, Fluor Albus, Prolapsus Uteri, Hysteria, Spinal Diseases, and other weaknesses of Females, Pregnancy and its Diseases, Abortion, Uterine Hemorrhage, and the General Management of Childbirth, Nursing, etc. $1.50.

——Pregnancy and Childbirth, with Cases showing the remarkable Effects of Water Treatment in Mitigating the Pains and Perils of the Parturient State. 50 cts.

Tobacco; its Physical, Intellectual, and Moral Effects on the Human System. By Dr. Alcott. New and revised ed., with notes and additions, by N. Sizer. 25 cts.

Shew (Joel, M.D.)—Children, their Hydropathic Management in Health and Disease. A Descriptive and Practical Work, designed as a Guide for Families and Physicians. $1.50.

Sober and Temperate Life.—The Discourses and Letters of LOUIS CORNARO on a Sober and Temperate Life. 50 cts.

Taylor (G. H., M.D.)—The Movement CURE. The History and Philosophy of this System of Medical Treatment, with Examples of Single Movements, The Principles of Massage, and Directions for their Use in various Forms of Chronic Diseases. New and Enlarged Ed. $1.50.

——Massage. Giving the Principles and Directions for its Application in all Forms of Chronic Diseases. 12mo, $1.50.

The Science of a New Life. By John Cowan, M.D. Extra cloth, $3.00.

Horses: Their Feed and Their Feet. A Manual of Horse Hygiene. By C. E. Page, M.D. 50 cents.

Philosophy of the Water-Cure. By John Balbirnie, M.D. 50 cents.

Chronic Diseases.—Especially the Nervous Diseases of Women. 25 cents.

Consumption, its Prevention and Cure by the Movement Cure. 25 cents.

Notes on Beauty, Vigor, and Development; or, How to Acquire Plumpness of Form, Strength of Limb, and Beauty of Complexion. Illustrated. 10 cents.

Tea and Coffee.—Their Physical, Intellectual, and Moral Effects on the Human System. By Dr. Alcott. New and revised edition, with notes and additions by Nelson Sizer. 25 cents.

Heredity.—RESPONSIBILITY AND PARENTAGE. By Rev. S. H. Platt. 10 cts.

Special List.—We have in addition to the above, Private Medical Works and Treatises. This Special List will be sent on receipt of stamp.

Sent by Mail, post-paid. FOWLER & WELLS, *Publishers*, 753 *Broadway, New York.*

WORKS ON HYGIENE BY R. T. TRALL, M.D.

Hydropathic Encyclopedia.—A System of Hydropathy and Hygiene. Embracing Outlines of Anatomy, Illus'ed; Physiology of the Human Body; Hygienic Agencies, and the Preservation of Health; Dietetics and Hydropathic Cookery; Theory and Practice of Water-Treatment; Special Pathology and Hydro-Therapeutics, including the Nature, Causes, Symptoms, and Treatment of all known Diseases; Application of Hydropathy to Midwifery and the Nursery, with nearly One Thousand Pages, including a Glossary. Designed as a guide to Families and Students. With numerous Illus. 2 vols. in one. $4.

Uterine Diseases & Displacements. A Practical Treatise on the Various Diseases, Malpositions, and Structural Derangements of the Uterus and its Appendages. Fifty-three Colored Plates. $5.

The Hygienic Hand-Book.—Intended as a Practical Guide for the Sick-Room. Arranged alphabetically. $1.50.

Illustrated Family Gymnasium.—Containing the most improved methods of applying Gymnastic, Calisthenic, Kinesipathic and Vocal Exercises to the Development of the Bodily Organs, the invigoration of their functions, the preservation of Health, and the Cure of Diseases and Deformities. With illustrations. $1.50.

The Hydropathic Cook-Book, with Recipes for Cooking on Hygienic Principles. Containing also, a Philosophical Exposition of the Relations of Food to Health; the Chemical Elements and Proximate Constitution of Alimentary Principles; the Nutritive Properties of all kinds of Aliments; the Relative Value of Vegetable and Animal Substances; the Selection and Preservation of Dietetic Material, etc. $1.25.

Fruits and Farinacea the Proper Food of Man.—Being an attempt to prove by History, Anatomy, Physiology, and Chemistry that the Original, Natural, and Best Diet of Man is derived from the Vegetable Kingdom. By John Smith. With Notes by Trall. $1.50.

Digestion and Dyspepsia.—A Complete Explanation of the Physiology of the Digestive Processes, with the Symptoms and Treatment of Dyspepsia and other Disorders. Illustrated. $1.00.

The Mother's Hygienic Hand-Book for the Normal Development and Training of Women and Children, and the Treatment of their Diseases. $1.00.

Popular Physiology.—A Familiar Exposition of the Structures, Functions, and Relations of the Human System and the Preservation of Health. $1.25.

The True Temperance Platform.—An Exposition of the Fallacy of Alcoholic Medication, being the substance of addresses delivered in the Queen's Concert Rooms, London. Paper, 50 cents.

The Alcoholic Controversy.—A Review of the *Westminster Review* on the Physiological Errors of Teetotalism. 50c.

The Human Voice.—Its Anatomy, Physiology, Pathology, Therapeutics, and Training, with Rules of Order for Lyceums. 50 cents; cloth, 75 cents.

The True Healing Art; or, Hygienic *vs.* Drug Medication. An Address delivered before the Smithsonian Institute, Washington, D. C. Paper, 25 cents; cloth, 50 cents.

Water-Cure for the Million.—The processes of Water-Cure Explained, Popular Errors Exposed, Hygienic and Drug Medication Contrasted. Rules for Bathing, Dieting, Exercising, Recipes for Cooking, etc., etc. Directions for Home Treatment. Paper, 25 cts.; cloth, 75 cts.

Hygeian Home Cook-Book; or, Healthful and Palatable Food without Condiments. A Book of Recipes. Paper, 25 cts.; cloth, 50 cts.

Accidents and Emergencies, a guide containing Directions for the Treatment in Bleeding, Cuts, Sprains, Ruptures, Dislocations, Burns and Scalds, Bites of Mad Dogs, Choking, Poisons, Fits, Sunstrokes, Drowning, etc. By Alfred Smee, with Notes and additions by R. T. Trall, M.D. New and revised edition. 25 cts.

Diseases of Throat and Lungs.—Including Diphtheria and Proper Treatment. 25 cents.

The Bath.—Its History and Uses in Health and Disease. Paper 25c.; clo., 50c.

A Health Catechism.—Questions and Answers. With Illustrations. 10 cts.

Sent by Mail, post-paid. Fowler & Wells, *Publishers*, 753 *Broadway, New York.*

MISCELLANEOUS WORKS.

Hand-books for Home Improvement (Educational); comprising, "How to Write," "How to Talk," "How to Behave," and "How to do Business." One 12mo vol., $2.00.

How to Write: a Pocket Manual of Composition and Letter-Writing. 75 cts.

How to Talk: a Pocket Manual of Conversation and Debate, with more than Five Hundred Common Mistakes in Speaking Corrected. 75 cents.

How to Behave: a Pocket Manual of Republican Etiquette and Guide to Correct Personal Habits, with Rules for Debating Societies and Deliberative Assemblies. 75 cents.

How to Do Business: a Pocket Manual of Practical Affairs, and a Guide to Success in Life, with a Collection of Legal and Commercial Forms. 75c.

How to Read.—What and Why; or, Hints in Choosing the Best Books, with Classified List of Best Works in Biography, Criticism, Fine Arts, History, Novels, Poetry, Science, Religion, Foreign Languages, etc. By A. V. Petit. Clo., $1.

How to Sing; or, the Voice and How to Use it. By W. H. Daniell. 50c; 75c.

How to Conduct a Public Meeting; or, The Chairman's Guide for Conducting Meetings, Public and Private. 15 cts.

Hopes and Helps for the Young of Both Sexes.—Relating to the Formation of Character, Choice of Avocation, Health, Amusement, Music, Conversation, Social Affections, Courtship and Marriage. By Weaver. $1.25.

Aims and Aids for Girls and Young Women, on the various Duties of Life. Including Physical, Intellectual, and Moral Development, Dress, Beauty, Fashion, Employment, Education, the Home Relations, their Duties to Young Men, Marriage, Womanhood and Happiness. $1.25.

Ways of Life, showing the Right Way and the Wrong Way. Contrasting the High Way and the Low Way; the True Way and the False Way; the Upward Way and the Downward Way; the Way of Honor and of Dishonor. 75 cts.

The Christian Household.—Embracing the Husband, Wife, Father, Mother, Child, Brother and Sister. $1.00.

Weaver's Works for the Young, Comprising "Hopes and Helps for the Young of Both Sexes," "Aims and Aids for Girls and Young Women," "Ways of Life; or, the Right Way and the Wrong Way." One vol. 12mo. $2.50.

The Right Word in the Right Place.—A New Pocket Dictionary and Reference Book. Embracing extensive Collections of Synonyms, Technical Terms, Abbreviations, Foreign Phrases, Chapters on Writing for the Press, Punctuation, Proof-Reading, and other Information. 75 cts.

How to Learn Short-Hand; or, The Stenographic Instructor. An Improved System of Short-hand Writing arranged specially for the use of those desirous of acquiring the art without the aid of a teacher. By Arthur M. Baker. 25 cents.

Phonographic Note-Book. — For Students and Reporters. Double or Single ruled. 15 cents.

The Emphatic Diaglott, Containing the Original Greek Text of The New Testament, with an Interlineary Word-for-Word English Translation; a New Emphatic Version based on the Interlineary Translation, on the Readings of the Vatican Manuscript (No. 1,200 in the Vatican Library). By Benjamin Wilson. 884 pp., $4.00; extra fine binding $5.00.

A Bachelor's Talks about Married Life and Things Adjacent. By Rev. William Aikman, D.D. 12mo, extra cloth, $1.50. *Ready November 1.*

History of Woman Suffrage.—Illustrated with Steel Engravings. Edited by Elizabeth Cady Stanton, Susan B. Anthony, Matilda Joslyn Gage. Complete in Three Octavo Volumes. Price per Volume, Cloth, $5.00. Sheep, $6.50.

Life at Home; or, The Family and its Members. Including Husbands and Wives, Parents, Children, Brothers, Sisters, Employers and Employed, The Altar in the House, etc. By Rev. William Aikman, D.D. 12mo, $1.50; full gilt $2.

A New Theory of the Origin of Species. By Benj. G. Ferris. $1.50.

Man in Genesis and in Geology or, the Biblical Account of Man's Creation tested by Scientific Theories of his Origin and Antiquity. By Joseph P. Thompson, D.D., LL.D. $1.00.

Sent by Mail, post-paid. FOWLER & WELLS, *Publishers*, 753 *Broadway, New York.*

MISCELLANEOUS WORKS.

The Conversion of St. Paul.—By Geo. Jarvis Geer, D.D. In three Parts. 1st. Its Relation to Unbelief. 2d. Its False Uses and True. 3d. Its Relation to the Church. $1.00.

The Temperance Reformation.—Its History from the first Temperance Society in the United States to the Adoption of the Maine Liquor Law. $1.50.

Man and Woman, Considered in their Relations to each other and to the World. By H. C. Pedder. Cloth, $1.

Æsop's Fables.—With Seventy Splendid Illustrations. One vol. 12mo, fancy cloth, gilt edges, $1. People's Edition, bound in boards, 25 cents.

Pope's Essay on Man, with Illustrations and Notes by S. R. Wells. 12mo, tinted paper, fancy cloth, full gilt, price $1. People's Edition, bound in boards, 25c.

Gems of Goldsmith: "The Traveler," "The Deserted Village," "The Hermit." With notes and Original Illustrations, and Biographical Sketch of the great author. One vol., fancy cloth, full gilt, $1. People's Ed., bound in boards, 25c.

The Rime of the Ancient Mariner. In Seven Parts. By Samuel T. Coleridge. With new Illustrations by Chapman. One vol., fancy cloth, full gilt, $1. People's Ed., bound in boards, 25 cents.

Footprints of Life; or, Faith and Nature Reconciled.—A Poem in Three Parts. The Body; The Soul; The Deity. Philip Harvey, M.D. $1.25.

How to Paint.—A Complete Compendium of the Art. Designed for the use of Tradesmen, Mechanics, Merchants and Farmers, and a Guide to the Professional Painter, Containing a plain Commonsense statement of the Methods employed by Painters to produce satisfactory results in Plain and Fancy Painting of every Description, including Gilding, Bronzing, Staining, Graining, Marbling, Varnishing, Polishing, Kalsomining, Paper Hanging, Striping, Lettering, Copying and Ornamenting, with Formulas for Mixing Paint in Oil or Water. Description of Various Pigments used: tools required, etc. By F. B. Gardner. $1.00.

The Carriage Painter's Illustrated Manual, containing a Treatise on the Art, Science, and Mystery of Coach, Carriage, and Car Painting. Including the Improvements in Fine Gilding, Bronzing, Staining, Varnishing, Polishing, Copying, Lettering, Scrolling, and Ornamenting. By F. B. Gardner. $1.00.

How to Keep a Store, embodying the Experience of Thirty Years in Merchandizing. By Samuel H. Terry. $1.50.

How to Raise Fruits.—A Hand-book. Being a Guide to the Cultivation and Management of Fruit Trees, and of Grapes and Small Fruits. With Descriptions of the Best and Most Popular Varieties. Illustrated. By Thomas Gregg. $1.

How to be Weather-Wise.—A new View of our Weather System. By I. P. Noyes. 25 cents.

How to Live.—Saving and Wasting; or, Domestic Economy Illustrated by the Life of two Families of Opposite Character, Habits, and Practices, full of Useful Lessons in Housekeeping, and Hints How to Live, How to Have, and How to be Happy, including the Story of "A Dime a Day," by Solon Robinson. $1.25.

Oratory—Sacred and Secular, or the Extemporaneous Speaker. Including a Chairman's Guide for conducting Public Meetings according to the best Parliamentary forms. By Wm. Pittenger. $1.25.

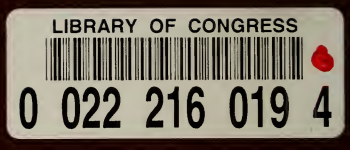
Homes for All; or, the Gravel Wall. A New, Cheap, and Superior Mode of Building, adapted to Rich and Poor. Showing the Superiority of the Gravel Concrete over Brick, Stone and Frame Houses; Manner of Making and Depositing it. By O. S. Fowler. $1.25.

The Model Potato.—Proper cultivation and mode of cooking. 50 cents.

Traits of Representative Men. With portraits. By Geo. W. Bungay. $1.50.

Capital Punishment; or, the Proper Treatment of Criminals, 10 cents. "Father Matthew, the Temperance Apostle," 10 cents. "Good Man's Legacy," 10 cents. Alphabet for Deaf and Dumb, 10 cents.

Sent by Mail, post-paid. Fowler & Wells, *Publishers*, 753 *Broadway, New York.*


LIBRARY OF CONGRESS
0 022 216 019 4